

From: Howard, Leslie Ann CIV USN BRAC PMO SAN CA (USA) [leslie.howard@navy.mil]
Sent: Friday, August 21, 2020 8:38 AM
To: Stoick, Paul T CIV USN NAVFAC SW SAN CA (USA) [paul.stoick@navy.mil]; Janda, Danielle L CIV USN (USA) [danielle.janda@navy.mil]
Subject: FW: HPNS Parcel E-2 Revised Data Package #2
Attachments: HPNS Imported Soil Assessment Memo DP4 Dutra200820.pdf.pdf

Morning

Not sure either of you are working today. I'm going to do a review and confirm they addressed Nina's concerns before sending to her. Nina may not be working today anyway, so I will wait until Monday unless you want me to go ahead and send today.

Thanks!

Leslie

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From: Lou Ehrhard <lehrhard@kemron.com>
Sent: Thursday, August 20, 2020 8:06 PM
To: Howard, Leslie Ann CIV USN BRAC PMO SAN CA (USA) <leslie.howard@navy.mil>
Cc: Paul Wiseman <paul.wiseman@kemron.com>; Mark Roberts <mroberts@kemron.com>; Lloyd DeYoung <ldeyoung@kemron.com>; John Dwyer <jdwyer@kemron.com>; ktruesdell@leisnoi.com; Kurt Norrell <knorrell@leisnoi.com>
Subject: [Non-DoD Source] HPNS Parcel E-2 Revised Data Package #2

Hi Leslie.

Please find attached the revised Data Package #2 supporting the approval of Dutra soils for import to Parcel E-2 for the landfill cover construction. We have added additional detail and clarified the text in the Tech Memo to explain the rationale for the agreed resampling approach in June. We've also made some corrections to both the PAH/SVOC data table (Table 3) as well as Figure 2 to resolve inconsistencies.

Please review and forward to DTSC for their review. We would be happy to discuss these results at your convenience.

Thank you and feel free to contact me as needed.

-Lou

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MEMO

To: **LESLIE HOWARD, NAVY REMEDIAL PROJECT MANAGER**

FROM: **LOU EHRHARD, KEMRON PROJECT MANAGER**
PAUL WISEMAN, KEMRON PROJECT CHEMIST

CC: **MARK ROBERTS, KEMRON PROJECT QUALITY CONTROL MANAGER**
LLOYD DEYOUNG, KEMRON SITE MANAGER

DATE: **AUGUST 20, 2020**

Re: **IMPORTED SOIL SAMPLE ASSESSMENT – DATA PACKAGE #2, REVISED**
PARCEL E-2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

KEMRON Environmental Services, Inc. (KEMRON) collected 177 soil samples in 2019 and 113 soil samples in 2020 from the Dutra soil located on Decker Island near Rio Vista, CA for evaluation as imported soil source material at Hunters Point. Samples were collected and analyzed in accordance with the specifications and procedures established in the HPNS Parcel E-2 Sampling and Analysis Plan (SAP), December 2018 and the Field Change Request (FCR)–2, July 1 2020 (for the 2020 samples), prepared in accordance with the Final Remedial Design Package, Specification Section 31 00 00 (RD, Navy 2014) and the Information Advisory for Imported Clean Fill (DTSC 2001). Soil samples were collected from a grid laid out on the proposed clean backfill source soil (see attached Figure 1). Soils were collected at up to three depths on the grid corresponding to excavation proposed source soil excavation depths of 0-5 feet, 5-10 feet, and 10-15 feet below ground surface (bgs).

Samples were collected July 17 through July 31, 2019 and sent to Eurofins TestAmerica (TA) Sacramento laboratory and EMSL's San Leandro laboratory for the following parameters:

- Metals by SW-846 Methods 6020/7471 (TA-Sacramento),
- Volatile Organic Compounds (VOCs) by SW-846 Method 8260 (TA-Sacramento and TA-St. Louis),
- Semi-Volatile Organic Compounds (SVOCs) including Polynuclear Aromatic Hydrocarbons (PAHs) by SW-846 Method 8270 (TA-Sacramento),
- Pesticides by SW-846 Method 8081 (TA-Savannah),
- Polychlorinated Biphenyls (PCBs) by SW-846 Method 8082 (TA-Savannah),
- Total Petroleum Hydrocarbons (TPH) – Gasoline Range Organics (GRO) by CALUFT/SW-846 Method 8260 (TA-Sacramento),
- TPH – Diesel Range Organics (DRO)/Motor Oil Range Organics (MRO) by SW-846 Method 8015 (TA-Sacramento),
- Radionuclide Parameters (completed by TA-St. Louis):
 - Radium-226, Cesium-137, Cobalt-60 by EPA Method 901.1,
 - Strontium-90 by EPA Method 905,
- pH by SW-846 Method 9045 (TA-Sacramento),
- Asbestos by PLM EPA Method 600/R-93/116 Method with CARB 435 Prep (EMSL).

Due elevated LODs of SVOCs in the initial sampling event (see discussion below), KEMRON conducted a resampling event June 17 through June 24, 2020, collecting soil samples from 113 select grid point locations. The additional samples collected were analyzed for polycyclic aromatic hydrocarbons (PAHs), the primary SVOCs of concern, by Pace National in Mount Juliet, Tennessee (Pace) utilizing GC/MS selective ion monitoring (SIM) analysis by SW-846 method 8270. The grid point locations and depths were selected based on total petroleum hydrocarbon (TPH) results from original sampling and analysis.

Laboratory data packages (Level 4 reports) were provided by TA and Pace, Level 1 reports were provided by EMSL, and Analytical Quality Associates, Inc. (AQA) completed stage 2B data validation on each Level 4 report. The validated results are provided in the attached tables and are summarized by parameter in the following sections.

It should be noted that the Comparison Criteria (CC) identified in the Final Remedial Design Package, Specification Section 31 00 00 contained incorrect EPA Regional Screening Limits (RSLs) using Residential values from the THQ=1.0 table not the THQ=0.1 table which should be used. The CC employed in this data evaluation includes the appropriate RSL values (THQ=0.1).

Metals

The metals results compared to the HPNS Parcel E-2 CC with updated U.S. EPA Regional Screening (RSLs) using Residential THQ=0.1 values are presented in Table 1. Several metals were detected above the comparison criteria including arsenic, barium, beryllium, nickel, and vanadium. The 95% upper confidence limit (UCL) was calculated for all metals. The 95% UCL value was below the HPNS E-2 CC for these metals with CC exceedances and for all other metals analyzed. The five (5) metals with CC exceedances are presented below compared the 95% UCLs.

Metal	CC (mg/kg)	95% UCL (mg/kg)
Arsenic	11.1	10.46
Barium	314.4	180
Beryllium	0.71	0.478
Nickel	112	85.56
Vanadium	117.2	85.19

VOCs

The VOC results compared to the HPNS Parcel E-2 CC based on updated RSL values are presented in Table 2. There were no VOCs reported with detections above the CC in the 177 samples analyzed. There were four (4) samples (DUT B3 at 5 - 10', DUT B5 at 0 - 5', DUT C4 at 10 - 15', and DUT C5 at 5 - 10') where all non-detected analytes could not be reported due QC issues and were qualified X.

SVOCs

The SVOC results compared to the HPNS Parcel E-2 CC based on updated RSL values are presented in Table 3. Many of the SVOC results from the initial 2019 sampling showed elevated limits of detection (LODs) as a result of low level TPH concentrations requiring sample dilutions for analysis using method 8270. As a result, conclusive quantitation of the results below the CC was not possible. Through several emails and conference calls between Navy, DTSC and KEMRON in late-February and early-March 2020, DTSC identified their main concern with the SVOC results was the inability to quantify benzo(a)pyrene (BaP) at concentrations below the CC.

To address this concern, KEMRON reanalyzed seven (7) of the samples in April 2020 using method 8270 SIM to provide lower LODs. As these seven (7) samples reanalyzed using method 8270 SIM were outside of the holding time limits, the results of these samples are not included in the revised Table 3. Rather, the reanalysis was to provide some quantitative results of BaP in the soil source area and a correlation of BaP to TPH concentrations to evaluate the potential for approval of the soils using the existing dataset. Five (5) of the seven (7) randomly selected samples that were reanalyzed using method 8270 SIM yielded concentrations above the CC and two (2) of the results were below. However, a strong correlation with the TPH concentrations were observed and TPH concentrations in the dataset were highest overall in the 10-15 feet deep samples. Shallower samples from 0-5 and 5-10 feet showed lower concentrations of TPH and would presumably yield lower concentrations of BaP for quantification as well.

Based on the results of the initial reanalysis, DTSC rejected approval of the soil volumes in a May 4 email and recommended resampling and analysis of the samples for PAHs using method 8270 SIM. KEMRON subcontracted to a new lab, Pace, that could analyze the anticipated volume of soil samples using method 8270 SIM without incurring holding time issues. The resampling focused on those grids with lower TPH concentrations generally found at the shallower depths. The samples were collected in June 2020 with stage 2b data validation occurring in July 2020.

The SVOC table included in this revised data package has incorporated these additional soil sample PAH results completed by Pace using method 8270 SIM, replacing the initial method 8270 results from TA that were reported with elevated LODs due to the dilutions. For the resampling and analysis using method 8270 SIM, limited detections of PAHs were reported in the samples. Only ten (10) of the 113 samples had exceedances of the HPNS Parcel E-2 CC for BaP of 330 µg/kg. These samples are identified below by location and depth.

Sample Location	Depth	BaP (µg/kg)
DUT-A1	10-15'	790
DUT-D5	10-15'	513
DUT-F1	10-15'	336
DUT-F2	10-15'	584
DUT-G2	10-15'	567
DUT-K2	5-10'	645
DUT-K2	10-15'	661
DUT-K3	5-10'	471 J
DUT-K5	5-10'	425
DUT-L5	5-10'	558 J

There were no other PAHs beside BaP detected above the CC as part of the resampling and analysis using method 8270 SIM. These ten (10) samples that exceeded the CC for BaP will not be considered for import to HPNS Parcel E-2. In addition to these ten (10) BaP exceedances using method 8270 SIM, there are 28 additional sample results from the initial sampling with elevated PAH LODs and that were not resampled. These results could not be quantitatively compared the HPNS Parcel E-2 CC for BaP and these soil volumes too will be not be considered for import to HPNS Parcel E-2.

PCBs

The PCB results compared to the HPNS Parcel E-2 CC are presented in Table 4. There were no PCBs reported detected in any samples that exceeded the HPNS Parcel E-2 CC of 140 µg/kg.

Pesticides

The pesticides results compared to the HPNS Parcel E-2 CC based on updated RSL values are presented in Table 5. Total DDT was reported detected above the HPNS Parcel E-2 CC in one (1) sample. Total DDT was detected in the sample from location DUT B4 at 5 - 10' with a concentration of 178.2 J µg/kg (CC = 46). Soil from this one (1) grid cell will not be considered for import to HPNS Parcel E-2.

Radionuclides

The radionuclide results compared to HPNS Parcel E-2 CC are presented in Table 6. The radionuclide results were all below the criteria with the exception of Cesium-137 reported above the comparison criteria of 0.113 pCi/g in one (1) samples at 0.146 pCi/g. The uncertainty associated with this value is ± 0.089 pCi/g, which puts the activity range within the comparison criterion. It should also be noted that the remaining 176 samples were all reported non-detect at a limit of 0.07 pCi/g. The average activity for all samples is 0.07 pCi/g as determined by the Kaplan-Meier method for estimating averages. EPA Soil Screening Guidance for Radionuclides: Technical Background Document, EPA/540-R-00-005 (October 2000) identifies the Generic Soil Screening for Direct Ingestion of Soil of Cs-137 as 18.3 pCi/g.

TPH – GRO/DRO/MRO

The TPH results compared to HPNS Parcel E-2 CC are presented in Table 7. There were two (2) samples with TPH-GRO results that exceeded the comparison criteria 100 mg/kg (DUT E2 at 5 - 10' and DUT H3 at 0 - 5'). The average as determined using the Kaplan-Meier method for TPH-GRO was 4.33 mg/kg. There were no TPH DRO or MRO results reported detected above the criteria. There were nine (9) samples reported non-detect for TPH-GRO that could not be reported and were qualified X due to QC issues. The TPH results indicated limited to no impact on overall soil quality.

pH

The pH results compared to HPNS Parcel E-2 CC comparison criteria are presented in Table 8. There were 111 samples reported with pH's below the comparison criteria range of 6.5 to 8.5. The remaining 66 samples were reported with pH's between 6.5 and 8.5.

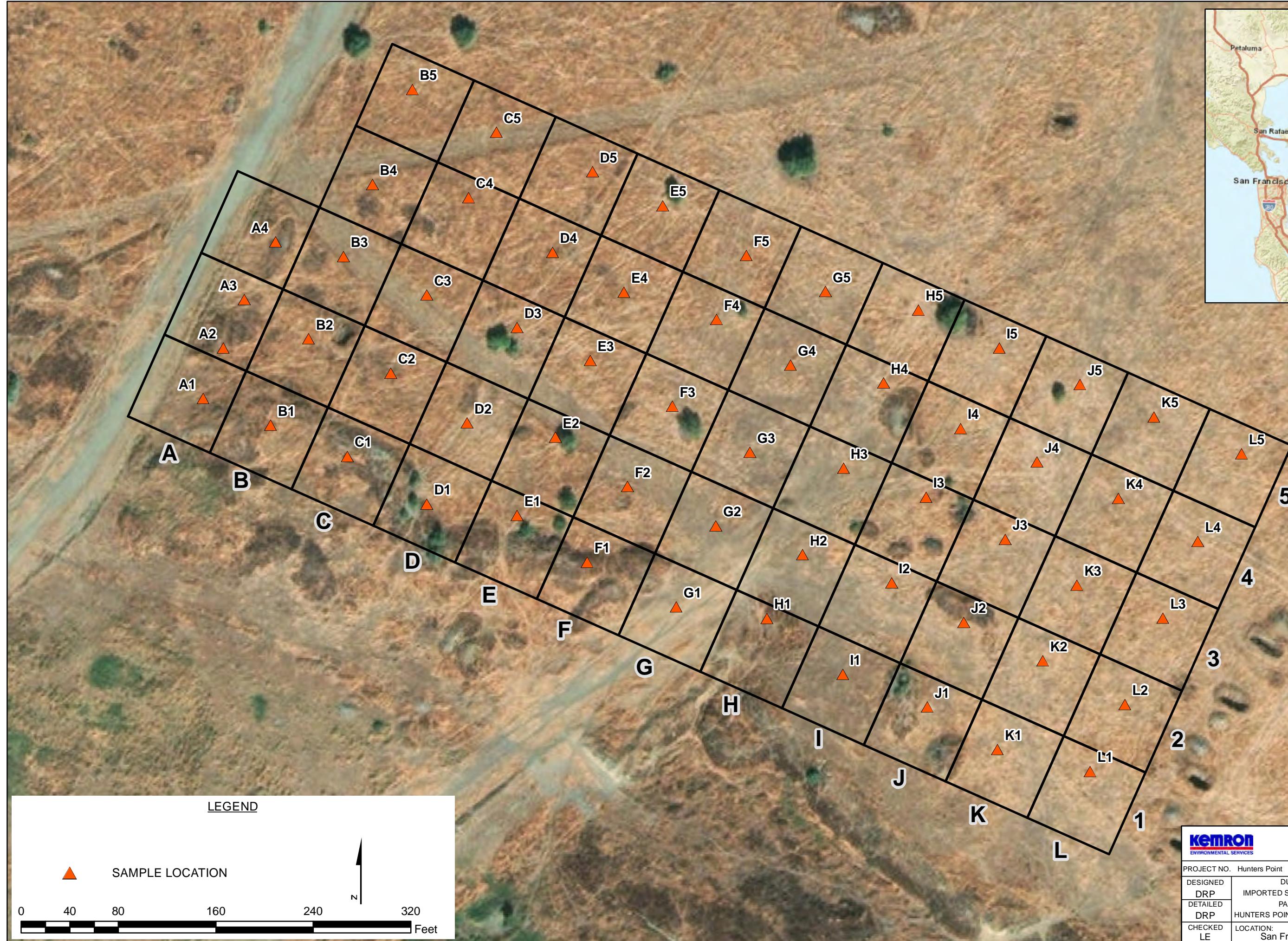
The laboratory method involves preparation of a slurry of soil in purified water to measure the pH of the soil, this approach has the potential of providing a high pH bias ("Comparison of Soil pH Method on Soil of North America", Nutrient Management & Soil & Plant Analysis, Soil Sci. Soc. Am. J. 74:310–316, January 2010). We do not consider that the reported pH results indicate a pH quality issue with the source area soils.

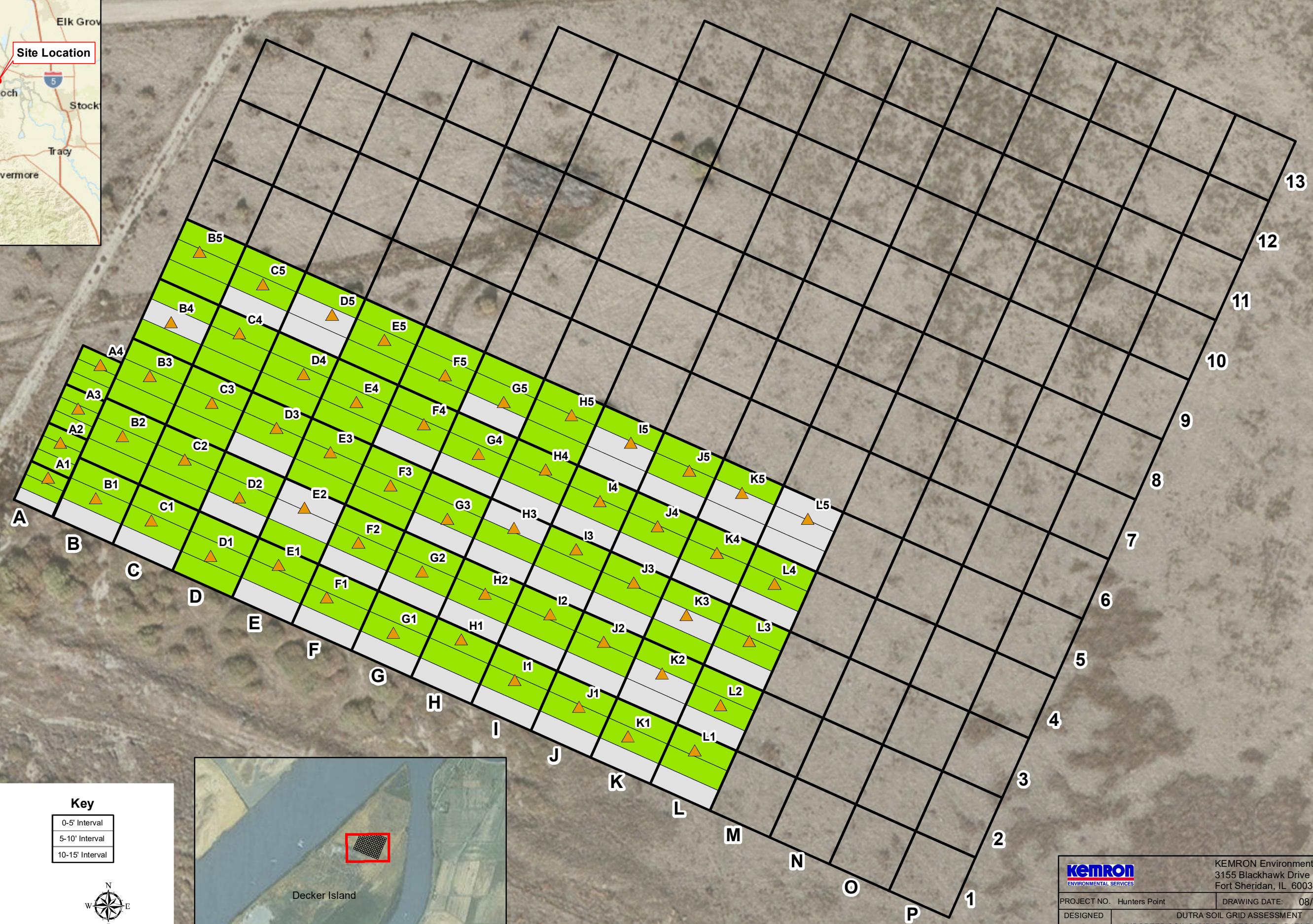
Asbestos

The asbestos results compared to the HPNS Parcel E-2 CC comparison criteria are presented in Table 7. Asbestos was reported above the comparison criteria of 0.25% in two (2) samples, 0.5% in DUT E2 at 0 - 5' and 0.75% in DUT I5 at 5 - 10'.

Summary

Based on the soil data results, the soils are consistent with results from other background soils or other sources areas for clean backfill soils. As indicated, the HPNS Parcel E-2 CC has been updated to incorporate the November 2019 EPA RSL Residential values based on THQ=0.1. There are eleven (11) grid cells, ten (10) for BaP and one (1) for total DDT, with analytic results exceeding the updated HPNS Parcel E-2 CC and 28 grid cells that could not be fully evaluated for use due elevated PAH LODs that will not be considered for import to HPNS Parcel E-2. A number of samples with PAH results below the HPNS Parcel E-2 CC but with the initial LODs of a few SVOCs at that exceeded CC are proposed for consideration for import to HPNS Parcel E-2. There is no evidence these other SVOC compounds may be present at concentrations exceeding the CC and these were not requested for reanalysis by DTSC as part of the 2020 resampling effort. Figure 2 presents these location identifying locations/depths that are available for use as clean fill material for import to HPNS Parcel E-2.





PROJECT NO. Hunters Point		DRAWING DATE: 08/20/2020
DESIGNED DRP	DUTRA SOIL GRID ASSESSMENT - DATA PACKAGE #2	
DETAILED DRP	PARCEL E2, PHASE 3 REMEDIAL ACTION	
CHECKED LE	LOCATION: San Francisco, CA	REVISION: 0 FIGURE: 2

KEMRON Environmental Services
3155 Blackhawk Drive
Fort Sheridan, IL 60037

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT A1	DUT A1	DUT A1	DUT A2	DUT A2	DUT A2	DUT A3	DUT A3	DUT A3
				Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
					Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	
Aluminum	77000*	23722	mg/kg	17000	22000	34000	19000	20000	21000	20000	20000	25000	21000	21000
Antimony	25	0.349	mg/kg	0.41 UJ	0.49 UJ	0.43 J	0.45 UJ	0.22 J	0.44 UJ	0.46 UJ	0.31 J	0.48		
Arsenic	11.1	10.46	mg/kg	7.5 J	9.6 J	17 J	10 J	10 J	8.1 J	6.6 J	12 J	7.4		
Barium	314.4	180	mg/kg	200 J	220 J	210 J	370 J	200 J	200 J	210 J	200 J	170		
Beryllium	0.71	0.478	mg/kg	0.33	0.39	0.77	0.51	0.43	0.4	0.43	0.55	0.4		
Cadmium	4.2	0.558	mg/kg	0.33 J	0.4 J	1.4 J	0.65 J	0.48 J	0.46 J	0.26 J	0.75 J	0.53		
Chromium	120000	81.36	mg/kg	62 J	74 J	120 J	58 J	71 J	71 J	65 J	85 J	72		
Cobalt	76.39	18.04	mg/kg	15	18	23	20	16	17	16	20	18		
Copper	270	62.49	mg/kg	36 J	50 J	110 J	30 J	51 J	45 J	32 J	68 J	46		
Iron	93000	32250	mg/kg	25000	30000	43000	34000	30000	29000	27000	34000	31000		
Lead	155	15.17	mg/kg	8.2	12	23	8 J	13	11	9.8	15	12		
Manganese	2433	579.5	mg/kg	560	500	670	2200	540	600	590	680	600		
Molybdenum	2.68	0.64	mg/kg	0.5	0.52	1.1	1.1	0.58	0.54	0.67	0.94	0.55		
Nickel	112	86.56	mg/kg	72 J	88 J	130 J	81 J	83 J	83 J	81 J	96 J	92		
Selenium	1.95	0.396	mg/kg	0.19 J	0.26 J	0.68 J	0.3 J	0.3 J	0.26 J	0.22 J	0.46 J	0.25		
Silver	1.43	0.175	mg/kg	0.095 J	0.14 J	0.25 J	0.054 J	0.16 J	0.14 J	0.077 J	0.18 J	0.17		
Sodium	2300	498.5	mg/kg	430	420	650	560	440	430	530	550	500		
Thallium	0.81	0.124	mg/kg	0.088 J	0.11 J	0.17 J	0.1 J	0.11 J	0.1 J	0.1 J	0.13 J	0.11		
Vanadium	117.2	85.19	mg/kg	61	74	140	64	74	74	68	95	71		
Zinc	410	83.94	mg/kg	63	80	140	48	83	79	59	96	85		
Mercury	2.28	0.258	mg/kg	0.079	0.26	0.46	0.059	0.28	0.29	0.1	0.18	0.17		

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID A3			DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2
Chemical	CC	UCL95	Units	0-5	5-10	10-15	0-5	5-10	10-15	0-5
	Depth (Feet)	Date	019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	5-10
Aluminum	77000*	23722	mg/kg	J	13000 J	26000 J	32000 J	18000 J	24000 J	28000 J
Antimony	25	0.349	mg/kg	UJ	0.41 J	0.3 J	0.42 J	0.43 UJ	0.29 J	0.33 J
Arsenic	11.1	10.46	mg/kg	J	5.7 J	11 J	17 J	5.9 J	13 J	14 J
Barium	314.4	180	mg/kg		160	210	220	190	230	210
Beryllium	0.71	0.478	mg/kg		0.23	0.56	0.69	0.31	0.49	0.6
Cadmium	4.2	0.558	mg/kg	J	0.2 J	0.68 J	0.9 J	0.24 J	0.59 J	0.91 J
Chromium	120000	81.36	mg/kg		54	93	100	64	86	96
Cobalt	76.39	18.04	mg/kg		13	20	23	17	19	19
Copper	270	62.49	mg/kg	J	23 J	73 J	100 J	34 J	71 J	86 J
Iron	93000	32250	mg/kg		20000 J	35000 J	41000 J	27000 J	34000 J	36000 J
Lead	155	15.17	mg/kg	J	5.4 J	15 J	20 J	6.9 J	16 J	17 J
Manganese	2433	579.5	mg/kg		260	590	720	420	660	610
Molybdenum	2.68	0.64	mg/kg	J	0.25 J	0.78 J	1.1 J	0.34 J	0.78 J	0.92 J
Nickel	112	86.56	mg/kg		60	100	110	83	97	110
Selenium	1.95	0.396	mg/kg	J	0.2 UJ	0.43 J	0.62 J	0.16 J	0.4 J	0.49 J
Silver	1.43	0.175	mg/kg	J	0.069 J	0.19 J	0.27 J	0.069 J	0.22 J	0.21 J
Sodium	2300	498.5	mg/kg	J	320 J	590 J	1200 J	480 J	520 J	800 J
Thallium	0.81	0.124	mg/kg	J	0.063 J	0.13 J	0.16 J	0.097 J	0.12 J	0.15 J
Vanadium	117.2	85.19	mg/kg	J	51 J	98 J	120 J	63 J	92 J	110 J
Zinc	410	83.94	mg/kg	J	53 J	100 J	110 J	65 J	93 J	110 J
Mercury	2.28	0.258	mg/kg		0.088	0.22	0.32	0.17	0.28	0.38
									0.12	0.3

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT B2	DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	DUT B5	DUT I
				Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
					Date	7/17/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019
Aluminum	77000*	23722	mg/kg	23000 J	23000	23000	21000	17000	22000	34000	15000	15000	18000	18000
Antimony	25	0.349	mg/kg	0.46 UJ	0.34 J	0.28 J	0.27 J	0.42 UJ	0.27 J	0.62 J	0.39 UJ	0.27	0.24	0.24
Arsenic	11.1	10.46	mg/kg	9.9 J	9.6 J	7.1 J	7.7 J	4.6 J	6.7 J	17 J	4.9 J	4.9 J	6.1	6.1
Barium	314.4	180	mg/kg	230	210	180	200	120	160	210	140	140	150	150
Beryllium	0.71	0.478	mg/kg	0.44	0.43	0.4	0.37	0.29	0.4	0.74	0.27	0.27	0.33	0.33
Cadmium	4.2	0.558	mg/kg	0.46 J	0.41 J	0.39 J	0.32 J	0.29 J	0.45 J	1 J	0.2 J	0.2 J	0.24	0.24
Chromium	120000	81.36	mg/kg	77	72	72	67	60	72	110	58	58	64	64
Cobalt	76.39	18.04	mg/kg	19	17	18	15	15	18	24	15	15	13	13
Copper	270	62.49	mg/kg	54 J	46	42	41	28	40	92	24	24	33	33
Iron	93000	32250	mg/kg	32000 J	29000	31000	29000	26000	32000	43000	23000	23000	25000	25000
Lead	155	15.17	mg/kg	13 J	12	11	10	7.2	11	23	5.7	5.7	8.3	8.3
Manganese	2433	579.5	mg/kg	530	480	500	450	420	510	670	340	340	340	340
Molybdenum	2.68	0.64	mg/kg	0.55 J	0.51	0.39	0.44	0.32	0.37	0.97	0.26 J	0.26 J	0.33	0.33
Nickel	112	86.56	mg/kg	91	82 J	88 J	79 J	75 J	91 J	120 J	70 J	70 J	71	71
Selenium	1.95	0.396	mg/kg	0.26 J	0.29 J-	0.25 J-	0.24 J-	0.16 J-	0.26 J-	0.59 J-	0.13 J-	0.13 J-	0.18	0.18
Silver	1.43	0.175	mg/kg	0.16 J	0.14 J	0.14 J	0.11 J	0.078 J	0.13 J	0.24 J	0.055 J	0.055 J	0.097	0.097
Sodium	2300	498.5	mg/kg	480 J	450	470	470	330	390	930	350	350	450	450
Thallium	0.81	0.124	mg/kg	0.12 J	0.12 J	0.12 J	0.11 J	0.085 J	0.11 J	0.18	0.079 J	0.079 J	0.088	0.088
Vanadium	117.2	85.19	mg/kg	79 J	73 J	71 J	68 J	58 J	71 J	120 J	57 J	57 J	62	62
Zinc	410	83.94	mg/kg	88 J	80	84	71	77	93	130	53	53	61	61
Mercury	2.28	0.258	mg/kg	0.28	0.22 J+	0.13 J+	0.25 J+	0.11 J+	0.16 J+	0.47 J+	0.09 J+	0.09 J+	0.11	0.11

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

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TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID 35			DUT B5	DUT C1	DUT C1	DUT C1	DUT C2	DUT C2	DUT C2	DUT C3
Depth (Feet)		0-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg		23000	23000	21000	32000	26000	23000 J
Antimony	25	0.349	mg/kg	J	0.34 J	0.32 J	0.31 J	0.66 J	0.33 J	0.31 J 0.43 J 0.42 UJ
Arsenic	11.1	10.46	mg/kg	J	8.5 J	9.5 J	8.2 J	18 J	10 J	7.9 J 10 J 6.3 J
Barium	314.4	180	mg/kg		180	220	160	200	210	180 190 180
Beryllium	0.71	0.478	mg/kg		0.46	0.41	0.44	0.74	0.46	0.43 0.58 0.32
Cadmium	4.2	0.558	mg/kg	J	0.66 J	0.38 J	0.51 J	1 J	0.45 J	0.47 J 0.82 J 0.25 J
Chromium	120000	81.36	mg/kg		80	69	77	100	75	75 88 66
Cobalt	76.39	18.04	mg/kg		20	17	19	24	18	18 20 16
Copper	270	62.49	mg/kg		53	43	50	110	52	47 69 32
Iron	93000	32250	mg/kg		32000	30000	29000	41000	34000	32000 37000 29000 J
Lead	155	15.17	mg/kg		13	12	13	26	13	12 18 7.8
Manganese	2433	579.5	mg/kg		630	440	540	850	510	580 600 430
Molybdenum	2.68	0.64	mg/kg		0.51	0.47	0.54	1.1	0.55	0.43 0.63 0.36
Nickel	112	86.56	mg/kg	J	98 J	80 J	89 J	110 J	89 J	89 J 100 J 80 J
Selenium	1.95	0.396	mg/kg	J-	0.3 J-	0.24 J-	0.34 J-	0.69 J-	0.31 J-	0.27 J- 0.42 J- 0.18 J-
Silver	1.43	0.175	mg/kg	J	0.15 J	0.13 J	0.15 J	0.28 J	0.16 J	0.16 J 0.25 J 0.084 J
Sodium	2300	498.5	mg/kg		520	400	430	1200	410	450 580 440
Thallium	0.81	0.124	mg/kg	J	0.13 J	0.12 J	0.12 J	0.18 J	0.12 J	0.12 J 0.15 J 0.099 J
Vanadium	117.2	85.19	mg/kg	J	81 J	69 J	78 J	120 J	76 J	75 J 92 J 65 J
Zinc	410	83.94	mg/kg		94	79	88	130	87	92 110 66
Mercury	2.28	0.258	mg/kg	J+	0.4 J+	0.2 J+	0.43 J+	0.2 J+	0.27 J+	0.2 J+ 0.33 J+ 0.28

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

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PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT C3	DUT C3	DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT I
				Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	0-5
					Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019
Aluminum	77000*	23722	mg/kg	20000 J	31000 J	28000 J	32000 J	25000 J	19000 J	20000 J	26000 J	20000 J	26000 J	19000
Antimony	25	0.349	mg/kg	0.27 J	0.52 J	0.48 J	0.66 J	0.41 J	0.24 J	0.23 J	0.34 J	0.23 J	0.34 J	0.3
Arsenic	11.1	10.46	mg/kg	7.1 J	13 J	15 J	16 J	9.7 J	6.7 J	6.7 J	8.8 J	6.7 J	8.8 J	7.9
Barium	314.4	180	mg/kg	200	210	250	210	180	170	170	160	170	160	200
Beryllium	0.71	0.478	mg/kg	0.36	0.65	0.57	0.74	0.5	0.34	0.37	0.54	0.37	0.54	0.4
Cadmium	4.2	0.558	mg/kg	0.29 J	0.87 J	0.58 J	1.4 J	0.65 J	0.3 J	0.4 J	0.73 J	0.4 J	0.73 J	0.35
Chromium	120000	81.36	mg/kg	68	100	87	100	81 J	66 J	69 J	84 J	69 J	84 J	67
Cobalt	76.39	18.04	mg/kg	15	21	19	21	19	16	19	17	16	19	15
Copper	270	62.49	mg/kg	36	83	66	110	59 J	35 J	39 J	62 J	35 J	39 J	43
Iron	93000	32250	mg/kg	28000 J	39000 J	35000 J	43000 J	36000 J	27000 J	29000 J	33000 J	29000 J	33000 J	26000
Lead	155	15.17	mg/kg	9.4	20	20	30	16	9.5	9.9	15	9.5	9.9	11
Manganese	2433	579.5	mg/kg	400	640	540	670	570	410	510	530	410	510	430
Molybdenum	2.68	0.64	mg/kg	0.38	0.95	0.84	1.1	0.58	0.36	0.45	0.56	0.36	0.45	0.46
Nickel	112	86.56	mg/kg	77 J	100 J	88 J	100 J	94 J	79 J	86 J	88 J	79 J	86 J	78
Selenium	1.95	0.396	mg/kg	0.18 J-	0.54 J-	0.45 J-	0.66 J-	0.37 J	0.22 J	0.22 J	0.34 J	0.22 J	0.34 J	0.24
Silver	1.43	0.175	mg/kg	0.1 J	0.23 J	0.25 J	0.33 J	0.18 J	0.11 J	0.59 J	0.15 J	0.59 J	0.15 J	0.12
Sodium	2300	498.5	mg/kg	420	630	530	530	460	410	460	540	410	460	380
Thallium	0.81	0.124	mg/kg	0.099 J	0.17	0.15 J	0.19	0.13 J	0.1 J	0.11 J	0.13 J	0.1 J	0.11 J	0.1
Vanadium	117.2	85.19	mg/kg	67 J	110 J	97 J	120 J	83 J	64 J	67 J	89 J	64 J	67 J	70
Zinc	410	83.94	mg/kg	80	120	120	200	99 J	69 J	82 J	99 J	69 J	82 J	70
Mercury	2.28	0.258	mg/kg	0.22	0.3	0.41	0.31	0.24	0.16	0.43	0.23	0.22	0.43	0.23

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID D1			DUT D1	DUT D1	DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3
Depth (Feet)		5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg	J	21000 J	21000 J	18000 J	17000 J	30000 J	16000 J
Antimony	25	0.349	mg/kg	J	0.32 J	0.3 J	0.28 J	0.22 J	0.54 J	0.44 UJ
Arsenic	11.1	10.46	mg/kg	J	8.3 J	10 J	9.1 J	6.6 J	14 J	5.7 J
Barium	314.4	180	mg/kg		190	220	200	180	210	150
Beryllium	0.71	0.478	mg/kg		0.43	0.41	0.42	0.33	0.67	0.3
Cadmium	4.2	0.558	mg/kg	J	0.38 J	0.43 J	0.38 J	0.25 J	0.73 J	0.22 J
Chromium	120000	81.36	mg/kg	J	72 J	70 J	65 J	63 J	95 J	62 J
Cobalt	76.39	18.04	mg/kg		15	17	15	14	20	15
Copper	270	62.49	mg/kg	J	46 J	44 J	40 J	34 J	78 J	28 J
Iron	93000	32250	mg/kg	J	28000 J	29000 J	26000 J	25000 J	39000 J	23000 J
Lead	155	15.17	mg/kg		12	12	10	8.2	18	6.7
Manganese	2433	579.5	mg/kg		420	500	410	360	640	360
Molybdenum	2.68	0.64	mg/kg		0.49	0.51	0.5	0.33	0.91	0.32 J
Nickel	112	86.56	mg/kg	J	81 J	81 J	76 J	75 J	100 J	74 J
Selenium	1.95	0.396	mg/kg	J	0.28 J	0.25 J	0.28 J	0.19 J	0.55 J	0.16 J
Silver	1.43	0.175	mg/kg	J	0.13 J	0.13 J	0.12 J	0.14 J	0.2 J	0.071 J
Sodium	2300	498.5	mg/kg		430	480	530	410	650	340
Thallium	0.81	0.124	mg/kg	J	0.1 J	0.11 J	0.1 J	0.089 J	0.16 J	0.091 J
Vanadium	117.2	85.19	mg/kg	J	74 J	74 J	68 J	62 J	110 J	58 J
Zinc	410	83.94	mg/kg	J	73 J	80 J	72 J	64 J	100 J	55 J
Mercury	2.28	0.258	mg/kg		0.24	0.33	0.2	0.14	0.54	0.13

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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Green - Result exceeds the CC

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U: Not Detected above the LOD

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DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT D4	DUT D4	DUT D4	DUT D5	DUT D5	DUT D5	DUT E1	DUT E1	DUT I
				Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
					Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019
Aluminum	77000*	23722	mg/kg	18000	25000	24000	21000	17000	23000	17000	30000	30000	34000	
Antimony	25	0.349	mg/kg	0.44 UJ	0.34 J	0.31 J	0.3 J	0.22 J	0.31 J	0.4 UJ	1.3 J	1.3 J	0.35	
Arsenic	11.1	10.46	mg/kg	5.9 J	9.4 J	8.7 J	10 J	5.8 J	9.2 J	5.8 J	13 J	13 J	17	
Barium	314.4	180	mg/kg	140	190	170	210	150	160	170 J	220 J	220 J	230	
Beryllium	0.71	0.478	mg/kg	0.31	0.45	0.46	0.37	0.29	0.41	0.3	0.63	0.63	0.75	
Cadmium	4.2	0.558	mg/kg	0.32 J	0.51 J	0.61 J	0.36 J	0.25 J	0.51 J	0.25 J	0.98 J	0.98 J	1	
Chromium	120000	81.36	mg/kg	63 J	81 J	80 J	67 J	58 J	71 J	60	100	100		
Cobalt	76.39	18.04	mg/kg	15	18	18	16	14	16	14	20	20	19	
Copper	270	62.49	mg/kg	34 J	56 J	56 J	42 J	28 J	51 J	29	93	93	100	
Iron	93000	32250	mg/kg	26000	35000	34000	28000	24000	30000	24000	38000	38000	43000	
Lead	155	15.17	mg/kg	8.7	15	15	11	7.1	13	7.5	72	72	22	
Manganese	2433	579.5	mg/kg	410	570	610	450	340	450	360	680	680	660	
Molybdenum	2.68	0.64	mg/kg	0.32 J	0.55	0.51	0.52	0.33	0.51	0.3	0.83	0.83	0.93	
Nickel	112	86.56	mg/kg	74 J	93 J	93 J	73 J	67 J	77 J	69	100	100	99	
Selenium	1.95	0.396	mg/kg	0.23 J	0.38 J	0.39 J	0.27 J	0.21 J	0.35 J	0.19 J	0.61 J	0.61 J	0.67	
Silver	1.43	0.175	mg/kg	0.11 J	0.19 J	0.21 J	0.11 J	0.076 J	0.13 J	0.081 J	0.23 J	0.23 J	0.27	
Sodium	2300	498.5	mg/kg	360 J	460 J	480 J	450 J	330 J	450 J	330 J	490 J	490 J	780	
Thallium	0.81	0.124	mg/kg	0.088 J	0.13 J	0.13 J	0.11 J	0.085 J	0.11 J	0.089 J	0.16 J	0.16 J	0.17	
Vanadium	117.2	85.19	mg/kg	61 J	85 J	82 J	67 J	57 J	76 J	57 J	110 J	110 J	120	120
Zinc	410	83.94	mg/kg	74 J	89 J	97 J	77 J	58 J	83 J	60	120	120		
Mercury	2.28	0.258	mg/kg	0.13	0.31	0.23	0.2	0.13	0.23	0.19 J-	0.4 J-	0.4 J-	0.49	

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID E1			DUT E2	DUT E2	DUT E2	DUT E3	DUT E3	DUT E3	DUT E4	DUT E4
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg		21000	29000	24000	18000	26000 J	27000 J
Antimony	25	0.349	mg/kg	J	0.47 UJ	0.31 J	0.34 J	0.22 J	0.31 J	0.39 J
Arsenic	11.1	10.46	mg/kg	J	8.1 J	14 J	8.7 J	7.1 J	12 J	10 J
Barium	314.4	180	mg/kg	J	190 J	240 J	200	170	200 J	190 J
Beryllium	0.71	0.478	mg/kg		0.4	0.63	0.41	0.32	0.55 J	0.51 J
Cadmium	4.2	0.558	mg/kg	J	0.46 J	0.88 J	0.43 J	0.3 J	0.65 J	0.57 J
Chromium	120000	81.36	mg/kg		73	96	79	60 J	91 J	84 J
Cobalt	76.39	18.04	mg/kg		17	21	20	14	19	18
Copper	270	62.49	mg/kg		44	85	54	35 J	70 J	62 J
Iron	93000	32250	mg/kg		31000	41000	31000	24000	32000 J	31000 J
Lead	155	15.17	mg/kg		12	22	12	8.5	16	14
Manganese	2433	579.5	mg/kg		550	700	540	380	650 J	610 J
Molybdenum	2.68	0.64	mg/kg		0.43	0.79	0.56	0.4	0.69 J	0.66 J
Nickel	112	86.56	mg/kg		85	98	95 J	72 J	93 J	84 J
Selenium	1.95	0.396	mg/kg	J	0.3 J	0.53 J	0.3 J	0.22 J	0.46 J-	0.4 J-
Silver	1.43	0.175	mg/kg	J	0.16 J	0.24 J	0.13 J	0.091 J	0.2 J	0.15 J
Sodium	2300	498.5	mg/kg	J	340 J	500 J	460	360 J	520	610
Thallium	0.81	0.124	mg/kg	J	0.11 J	0.16 J	0.12 J	0.094 J	0.15 J	0.14 J
Vanadium	117.2	85.19	mg/kg	J	72 J	100 J	79	60 J	97 J	91 J
Zinc	410	83.94	mg/kg		87	110	77 J-	62 J	95 J-	80 J-
Mercury	2.28	0.258	mg/kg	J-	0.2 J-	0.26 J-	0.26 J-	0.23	0.33	0.26

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT E4	DUT E5	DUT E5	DUT E5	DUT F1	DUT F1	DUT F1	DUT F2	DUT I
				Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
					Date	7/22/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
Aluminum	77000*	23722	mg/kg	22000 J	19000	22000	28000	18000	24000	24000	19000	19000	24000	
Antimony	25	0.349	mg/kg	0.22 J	0.24 J	0.47 UJ	0.33 J	0.22 J	0.34 J	0.28 J	0.42 UJ	0.28 J	0.42 UJ	0.26
Arsenic	11.1	10.46	mg/kg	9 J	6.2 J	7.6 J	11 J	6.5 J	9.8 J	9.7 J	7.3 J	9.7 J	7.3 J	8.1
Barium	314.4	180	mg/kg	180 J	190	180	190	180	210	210	200	200	190	
Beryllium	0.71	0.478	mg/kg	0.38 J	0.37	0.42	0.63	0.33	0.47	0.46	0.34	0.46	0.34	0.46
Cadmium	4.2	0.558	mg/kg	0.42 J	0.28 J	0.43 J	0.77 J	0.27 J	0.44 J	0.48 J	0.29 J	0.48 J	0.29 J	0.54
Chromium	120000	81.36	mg/kg	74 J	66 J	77 J	92 J	66 J	76 J	79 J	63 J	79 J	63 J	84
Cobalt	76.39	18.04	mg/kg	17	17	17	18	15	17	19	16	17	19	20
Copper	270	62.49	mg/kg	47 J	35 J	45 J	76 J	34 J	53 J	53 J	35 J	53 J	35 J	56
Iron	93000	32250	mg/kg	30000 J	26000	32000	34000	25000	32000	32000	26000	32000	26000	35000
Lead	155	15.17	mg/kg	11	8.8	12	17	8.3	13	13	9.2	13	9.2	16
Manganese	2433	579.5	mg/kg	480 J	380	520	570	380	490	560	400	560	400	700
Molybdenum	2.68	0.64	mg/kg	0.5 J	0.35	0.43	0.68	0.34	0.57	0.59	0.36	0.59	0.36	0.45
Nickel	112	86.56	mg/kg	82 J	76 J	88 J	96 J	73 J	86 J	87 J	73 J	87 J	73 J	100
Selenium	1.95	0.396	mg/kg	0.28 J-	0.21 J-	0.32 J-	0.49 J-	0.22 J-	0.36 J-	0.36 J-	0.23 J	0.36 J-	0.23 J	0.36
Silver	1.43	0.175	mg/kg	0.11 J	0.083 J	0.14	0.2	0.23	0.15	0.15	0.094 J	0.15	0.094 J	0.22
Sodium	2300	498.5	mg/kg	470	410 J	490 J	720 J	410 J	480 J	490 J	390 J	480 J	490 J	410
Thallium	0.81	0.124	mg/kg	0.11 J	0.11 J	0.11 J	0.14 J	0.095 J	0.12 J	0.12 J	0.1 J	0.12 J	0.1 J	0.13
Vanadium	117.2	85.19	mg/kg	76 J	64 J	74 J	100 J	65 J	80 J	82 J	62 J	80 J	82 J	82
Zinc	410	83.94	mg/kg	74 J-	65 J	82 J	100 J	60 J	87 J	80 J	66 J	80 J	66 J	96
Mercury	2.28	0.258	mg/kg	0.21	0.16	0.3	0.32	0.16	0.21 J-	0.22 J-	0.18 J-	0.22 J-	0.18 J-	0.29

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID F2			DUT F2	DUT F3	DUT F3	DUT F3	DUT F4	DUT F4	DUT F4	DUT F5
Depth (Feet)			10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg		29000	20000	22000	27000	20000	18000
Antimony	25	0.349	mg/kg	J	0.38 J	0.24 J	0.27 J	0.33 J	0.22 J	0.22 J
Arsenic	11.1	10.46	mg/kg	J	12 J	7.6 J	7.9 J	13 J	7 J	6.8 J
Barium	314.4	180	mg/kg		190	210	200	190	190	170
Beryllium	0.71	0.478	mg/kg		0.64	0.4	0.43	0.54	0.35	0.34
Cadmium	4.2	0.558	mg/kg	J	0.72 J	0.37 J	0.47 J	0.7 J	0.3 J	0.39 J
Chromium	120000	81.36	mg/kg	J	96 J	71 J	75 J	87 J	67 J	66 J
Cobalt	76.39	18.04	mg/kg		19	15	18	19	17	16
Copper	270	62.49	mg/kg	J	83 J	42 J	49 J	72 J	37 J	38 J
Iron	93000	32250	mg/kg		37000	28000	31000	37000	28000	27000
Lead	155	15.17	mg/kg		18	11	13	16	9.4	9.7
Manganese	2433	579.5	mg/kg		540	460	520	610	410	450
Molybdenum	2.68	0.64	mg/kg		0.75	0.44	0.5	0.73	0.39	0.39
Nickel	112	86.56	mg/kg	J	100 J	80 J	89 J	93 J	78 J	76 J
Selenium	1.95	0.396	mg/kg	J	0.56 J	0.27 J-	0.32 J-	0.53 J-	0.24 J-	0.26 J-
Silver	1.43	0.175	mg/kg		0.21	0.13	0.14	0.2	0.099 J	0.1 J
Sodium	2300	498.5	mg/kg	J	630 J	400 J	430 J	600 J	390 J	370 J
Thallium	0.81	0.124	mg/kg	J	0.15 J	0.11 J	0.12 J	0.14 J	0.1 J	0.096 J
Vanadium	117.2	85.19	mg/kg	J	100 J	71 J	77 J	97 J	66 J	65 J
Zinc	410	83.94	mg/kg	J	100 J	70 J	83 J	98 J	65 J	72 J
Mercury	2.28	0.258	mg/kg	J-	0.34 J-	0.23 J-	0.25 J-	0.28 J-	0.14 J-	0.15 J-
									0.22 J-	0.078 J-

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT F5	DUT F5	DUT G1	DUT G1	DUT G1	DUT G2	DUT G2	DUT G2	DUT G2
				Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
					Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
Aluminum	77000*	23722	mg/kg	17000 J	19000 J	19000 J	32000 J	29000 J	19000	20000	36000	36000	18000	18000
Antimony	25	0.349	mg/kg	0.43 UJ	0.46 UJ	0.46 UJ	0.35 J	0.31 J	0.41 UJ	0.42 UJ	0.44 J	0.44 J	0.41	0.41
Arsenic	11.1	10.46	mg/kg	5.3 J	6 J	6.8 J	13 J	12 J	7.1 J	6.3 J	19 J	19 J	5.3	5.3
Barium	314.4	180	mg/kg	150 J	140 J	190 J	210 J	190 J	190 J	150 J	230 J	140	140	
Beryllium	0.71	0.478	mg/kg	0.3 J	0.35 J	0.32 J	0.64 J	0.57 J	0.33	0.32	0.72	0.72	0.31	0.31
Cadmium	4.2	0.558	mg/kg	0.25 J	0.39 J	0.29 J	0.88 J	0.81 J	0.31 J	0.31 J	1.4 J	1.4 J	0.32	0.32
Chromium	120000	81.36	mg/kg	64 J	70 J	65 J	110 J	91 J	65 J	67 J	110 J	110 J	65	65
Cobalt	76.39	18.04	mg/kg	15	16	15	22	22	15	15	32	32	15	15
Copper	270	62.49	mg/kg	31 J	42 J	36 J	92 J	80 J	35 J	37 J	110 J	110 J	33	33
Iron	93000	32250	mg/kg	25000 J	26000 J	25000 J	37000 J	36000 J	26000	29000	47000	47000	26000	26000
Lead	155	15.17	mg/kg	7.1	9.1	8.7	19	17	9	8.6	24	24	8.7	8.7
Manganese	2433	579.5	mg/kg	390 J	440 J	400 J	760 J	820 J	410	440	1200	1200	430	430
Molybdenum	2.68	0.64	mg/kg	0.3 J	0.37 J	0.37 J	0.93 J	0.79 J	0.38	0.36	1.2	1.2	0.31	0.31
Nickel	112	86.56	mg/kg	74 J	79 J	73 J	110 J	100 J	74 J	76 J	120 J	120 J	75	75
Selenium	1.95	0.396	mg/kg	0.16 J-	0.24 J-	0.19 J-	0.54 J-	0.47 J-	0.2 J	0.21 J	0.76 J	0.76 J	0.19	0.19
Silver	1.43	0.175	mg/kg	0.077 J	0.11 J	0.097 J	0.2 J	0.2 J	0.11	0.098 J	0.3	0.3	0.11	0.11
Sodium	2300	498.5	mg/kg	380	440	380	490	570	420 J	400 J	780 J	780 J	330	330
Thallium	0.81	0.124	mg/kg	0.086 J	0.097 J	0.094 J	0.17 J	0.15 J	0.099 J	0.095 J	0.19 J	0.19 J	0.092	0.092
Vanadium	117.2	85.19	mg/kg	61 J	68 J	67 J	120 J	100 J	65 J	63 J	140 J	140 J	65	65
Zinc	410	83.94	mg/kg	61 J-	69 J-	61 J-	110 J-	96 J-	65 J	66 J	130 J	130 J	65	65
Mercury	2.28	0.258	mg/kg	0.14 J-	0.18 J-	0.16 J-	0.31 J-	0.3 J-	0.18	0.15	0.45	0.45	0.11	0.11

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID #3			DUT G3	DUT G3	DUT G4	DUT G4	DUT G4	DUT G5	DUT G5	DUT G5
Depth (Feet)		5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg	29000	30000	22000	35000	35000	11000	21000
Antimony	25	0.349	mg/kg	UJ	0.45 J	0.3 J	0.57 UJ	0.41 J	0.42 J	0.4 UJ
Arsenic	11.1	10.46	mg/kg	J	17 J	11 J	6.5 J	16 J	16 J	3.7 J
Barium	314.4	180	mg/kg	J	220 J	210 J	150 J	220 J	200 J	110 J
Beryllium	0.71	0.478	mg/kg		0.63	0.53	0.37	0.75	0.74	0.2
Cadmium	4.2	0.558	mg/kg	J	1.3 J	0.71 J	0.37 J	1.4 J	1.1 J	0.14 J
Chromium	120000	81.36	mg/kg	J	99 J	97 J	81 J	120 J	100 J	46 J
Cobalt	76.39	18.04	mg/kg		22	21	17	23	26	12
Copper	270	62.49	mg/kg	J	100 J	77 J	43 J	120 J	110 J	17 J
Iron	93000	32250	mg/kg		40000	38000	32000	42000	43000	17000
Lead	155	15.17	mg/kg		26	18	11	24	22	6.9
Manganese	2433	579.5	mg/kg		800	660	480	860	950	250
Molybdenum	2.68	0.64	mg/kg		0.92	0.63	0.37 J	0.93	0.98	0.26 J
Nickel	112	86.56	mg/kg	J	99 J	100 J	88 J	120 J	110 J	54 J
Selenium	1.95	0.396	mg/kg	J	0.58 J	0.41 J	0.25 J	0.68 J	0.69 J	0.2 UJ
Silver	1.43	0.175	mg/kg		0.28	0.21	0.17	0.27	0.27	0.053 J
Sodium	2300	498.5	mg/kg	J	460 J	580 J	390 J	750 J	770 J	260 J
Thallium	0.81	0.124	mg/kg	J	0.16 J	0.15 J	0.11 J	0.19	0.18	0.06 J
Vanadium	117.2	85.19	mg/kg	J	120 J	100 J	79 J	140 J	130 J	41 J
Zinc	410	83.94	mg/kg	J	120 J	100 J	77 J	130 J	120 J	39 J
Mercury	2.28	0.258	mg/kg		0.59	0.42	0.16	0.58	0.42	0.12

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID			DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2	DUT H3	DUT H3	DUT I	
Depth (Feet)		0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-1		
	Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/25/2019	7/25/2019	7/25/2019		
Chemical	CC	UCL95	Units									
Aluminum	77000*	23722	mg/kg	32000	32000	32000	19000	39000	34000	29000	33000	36000
Antimony	25	0.349	mg/kg	0.35 J	0.37 J	0.33 J	0.43 UJ	0.45 J	0.41 J	0.34 J	0.43 J	0.46
Arsenic	11.1	10.46	mg/kg	14 J	17 J	12 J	6.4 J	13 J	16 J	12 J	13 J	18
Barium	314.4	180	mg/kg	210 J	200 J	200 J	180 J	270 J	200 J	220	200	220
Beryllium	0.71	0.478	mg/kg	0.63	0.65	0.65	0.3	0.73	0.69	0.55	0.62	0.76
Cadmium	4.2	0.558	mg/kg	0.81 J	0.9 J	0.49 J	0.27 J	1.1 J	1.1 J	0.52 J	0.76 J	0.91
Chromium	120000	81.36	mg/kg	110 J	97 J	100 J	70 J	120 J	110 J	82	100	110
Cobalt	76.39	18.04	mg/kg	22	22	19	16	23	25	17	20	20
Copper	270	62.49	mg/kg	96 J	97 J	81 J	37 J	110 J	110 J	62 J	83 J	110
Iron	93000	32250	mg/kg	39000	40000	42000	26000	45000	42000	36000	40000	47000
Lead	155	15.17	mg/kg	20	20	16	8.2	23	21	18 J	18	23
Manganese	2433	579.5	mg/kg	680	880	490	400	800	1200	550	740	700
Molybdenum	2.68	0.64	mg/kg	0.89	0.96	0.88	0.35	1	1.1	0.68 J	0.83 J	0.91
Nickel	112	86.56	mg/kg	110 J	99 J	100 J	76 J	130 J	120 J	87	99	100
Selenium	1.95	0.396	mg/kg	0.57 J	0.59 J	0.62 J	0.19 J	0.68 J	0.67 J	0.43 J-	0.53 J-	0.7
Silver	1.43	0.175	mg/kg	0.22	0.25	0.16	0.1 J	0.29	0.27	0.23	0.21	0.31
Sodium	2300	498.5	mg/kg	630 J	910 J	1100 J	440 J	630 J	950 J	570	640	780
Thallium	0.81	0.124	mg/kg	0.17 J	0.17 J	0.17 J	0.094 J	0.18 J	0.18 J	0.14 J	0.15 J	0.18
Vanadium	117.2	85.19	mg/kg	130 J	110 J	120 J	67 J	140 J	130 J	88	110	130
Zinc	410	83.94	mg/kg	110 J	110 J	92 J	60 J	110 J	110 J	81	95	120
Mercury	2.28	0.258	mg/kg	0.42	0.33	0.32	0.16	0.47	0.38	0.22	0.31	0.36

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

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mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID 13			DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5	DUT I1	DUT I1
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg		31000	20000	22000	17000	20000	38000
Antimony	25	0.349	mg/kg	J	0.38 J	0.43 UJ	0.23 J	0.42 UJ	0.44 UJ	0.43 J
Arsenic	11.1	10.46	mg/kg	J	13 J	6.9 J	8.5 J	5 J	6.3 J	16 J
Barium	314.4	180	mg/kg		240	170	170	140	150	200
Beryllium	0.71	0.478	mg/kg		0.62	0.36	0.4	0.29	0.36	0.71
Cadmium	4.2	0.558	mg/kg	J	0.6 J	0.39 J	0.49 J	0.2 J	0.34 J	1 J
Chromium	120000	81.36	mg/kg		99	66	73	62	68	110
Cobalt	76.39	18.04	mg/kg		21	16	17	14	15	25
Copper	270	62.49	mg/kg	J	79 J	37 J	48 J	26 J	37 J	100 J
Iron	93000	32250	mg/kg		41000	30000	32000	25000	29000	45000
Lead	155	15.17	mg/kg		20	10	11	6.4	9.3	22
Manganese	2433	579.5	mg/kg		750	470	500	380	450	1100
Molybdenum	2.68	0.64	mg/kg	J	0.8 J	0.37 J	0.51 J	0.32 J	0.43 J	1 J
Nickel	112	86.56	mg/kg		100	75	79	71	80	110
Selenium	1.95	0.396	mg/kg	J-	0.49 J-	0.23 J-	0.27 J-	0.16 J-	0.23 J-	0.62 J-
Silver	1.43	0.175	mg/kg		0.26	0.23	0.12	0.067 J	0.12	0.25
Sodium	2300	498.5	mg/kg		660	330	430	310	320	800
Thallium	0.81	0.124	mg/kg	J	0.15 J	0.1 J	0.13 J	0.087 J	0.1 J	0.18 J
Vanadium	117.2	85.19	mg/kg		110	63	74	59	70	120
Zinc	410	83.94	mg/kg		94	73	78	54	64	110
Mercury	2.28	0.258	mg/kg		0.39	0.19	0.26	0.1	0.15	0.46

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3	DUT I4	DUT I4
				Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
					Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/26/2019	7/26/2019
Aluminum	77000*	23722	mg/kg	32000	20000	35000	36000	29000	36000	36000	36000	21000	31000	31000
Antimony	25	0.349	mg/kg	0.39 J	0.43 UJ	0.45 J	0.44 J	0.37 J	0.4 J	0.44 J	0.44 J	0.31 J	0.37	0.37
Arsenic	11.1	10.46	mg/kg	14 J	6.7 J	15 J	17 J	11 J	15 J	18 J	18 J	8.5	12	12
Barium	314.4	180	mg/kg	200	190	200	220	200	200	200	200	150	220	220
Beryllium	0.71	0.478	mg/kg	0.6	0.35	0.68	0.73	0.57	0.72	0.72	0.74	0.43	0.59	0.59
Cadmium	4.2	0.558	mg/kg	0.78 J	0.36 J	1.4 J	0.99 J	0.71 J	0.94 J	0.87 J	0.87 J	0.78	0.75	0.75
Chromium	120000	81.36	mg/kg	96	72	99	110	89	100	100	100	73	100	100
Cobalt	76.39	18.04	mg/kg	24	16	22	27	20	27	27	22	16	22	22
Copper	270	62.49	mg/kg	87 J	38 J	100 J	100 J	77 J	98 J	100 J	100 J	63	81	81
Iron	93000	32250	mg/kg	41000	29000	42000	45000	37000	44000	43000	29000	40000	40000	40000
Lead	155	15.17	mg/kg	19	9.5	26	21	20	20	20	22	16	19	19
Manganese	2433	579.5	mg/kg	660	470	790	830	680	930	680	930	330	700	700
Molybdenum	2.68	0.64	mg/kg	0.85 J	0.41 J	0.99 J	1.1 J	0.66 J	0.96 J	1 J	0.96 J	0.52	0.8	0.8
Nickel	112	86.56	mg/kg	100	81	100	110	92	110	100	100	71	110	110
Selenium	1.95	0.396	mg/kg	0.55 J-	0.22 J-	0.57 J-	0.7 J-	0.48 J-	0.63 J-	0.68 J-	0.68 J-	0.33	0.45	0.45
Silver	1.43	0.175	mg/kg	0.21	0.12	0.27	0.27	0.27	0.27	0.25	0.25	0.15	0.24	0.24
Sodium	2300	498.5	mg/kg	710	390	520	740	430	690	740	740	390	540	540
Thallium	0.81	0.124	mg/kg	0.16 J	0.1 J	0.17	0.18 J	0.15 J	0.17 J	0.18	0.18	0.14 J	0.16	0.16
Vanadium	117.2	85.19	mg/kg	120	70	110	130	96	120	130	130	80	100	100
Zinc	410	83.94	mg/kg	100	68	130	110	97	110	110	110	87	100	100
Mercury	2.28	0.258	mg/kg	0.3	0.16	0.35	0.39	0.42	0.45	0.53	0.53	0.33	0.33	0.33

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID [4]			DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1	DUT J2
Depth (Feet)			10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5
Chemical	CC	UCL95	Units							
Aluminum	77000*	23722	mg/kg		33000	21000	26000	21000	25000	30000
Antimony	25	0.349	mg/kg	J	0.42 J	0.22 J	0.32 J	0.26 J	0.26 J	0.39 J
Arsenic	11.1	10.46	mg/kg		15	8	13	9.8	9.5	14
Barium	314.4	180	mg/kg		200	210	170	150	210	180
Beryllium	0.71	0.478	mg/kg		0.67	0.37	0.57	0.43	0.47	0.72
Cadmium	4.2	0.558	mg/kg		0.83	0.35	0.83	0.49	0.43	0.74
Chromium	120000	81.36	mg/kg		95	69	84	71	77	95
Cobalt	76.39	18.04	mg/kg		19	16	20	16	17	22
Copper	270	62.49	mg/kg		91	41	77	51	55	77
Iron	93000	32250	mg/kg		41000	29000	35000	28000	33000	37000
Lead	155	15.17	mg/kg		21	11	17	11	14	19
Manganese	2433	579.5	mg/kg		630	450	730	420	540	690
Molybdenum	2.68	0.64	mg/kg		0.89	0.44	0.75	0.59	0.53	0.9
Nickel	112	86.56	mg/kg		97	81	91	73	86	92
Selenium	1.95	0.396	mg/kg		0.64	0.29	0.58	0.34	0.37	0.65
Silver	1.43	0.175	mg/kg		0.23	0.12	0.21	0.12	0.18	0.2
Sodium	2300	498.5	mg/kg		600	470	500	520	530	520
Thallium	0.81	0.124	mg/kg	J	0.17	0.11 J	0.14 J	0.12 J	0.12 J	0.15 J
Vanadium	117.2	85.19	mg/kg		110	68	97	80	80	110
Zinc	410	83.94	mg/kg		110	70	100	80	79	93
Mercury	2.28	0.258	mg/kg		0.4	0.2	0.39	0.27	0.29	0.49

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4	DUT J4
				Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
					Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019
Aluminum	77000*	23722	mg/kg	20000	30000	19000	20000	30000	21000	27000	18000	25000		
Antimony	25	0.349	mg/kg	0.43 U	0.4 J	0.4 UJ	0.45 UJ	0.35 J	0.23 J	0.27 J	0.44 UJ	0.24		
Arsenic	11.1	10.46	mg/kg	7	14	5.5 J	7.5 J	18 J	8.6 J	12 J	6.9 J	9.9		
Barium	314.4	180	mg/kg	160	190	140	170	200	160	170	130	200		
Beryllium	0.71	0.478	mg/kg	0.4	0.72	0.34	0.37	0.6	0.43	0.56	0.33	0.47		
Cadmium	4.2	0.558	mg/kg	0.48	0.97	0.33 J	0.39 J	1 J	0.65 J	0.61 J	0.32 J	0.46		
Chromium	120000	81.36	mg/kg	68	97	63 J	71 J	96 J	69 J	81 J	57 J	80		
Cobalt	76.39	18.04	mg/kg	16	23	15	16	24	18	16	15	17		
Copper	270	62.49	mg/kg	43	90	33 J	41 J	95 J	51	66	32	57		
Iron	93000	32250	mg/kg	27000	38000	28000	29000	39000	30000 J	35000 J	24000 J	34000		
Lead	155	15.17	mg/kg	10	18	9	11	21	13	15	7	15		
Manganese	2433	579.5	mg/kg	540	1100	460	440	840	580	450	330	540		
Molybdenum	2.68	0.64	mg/kg	0.47	1	0.35	0.48	0.97	0.52 J	0.73 J	0.38 J	0.61		
Nickel	112	86.56	mg/kg	83	100	77	81	100	81 J	82 J	63 J	86		
Selenium	1.95	0.396	mg/kg	0.28 J	0.68	0.21 J	0.27 J	0.54 J	0.3 J-	0.45 J-	0.16 J-	0.36		
Silver	1.43	0.175	mg/kg	0.13	0.22	0.12	0.13	0.24	0.17 J	0.16 J	0.066 J	0.19		
Sodium	2300	498.5	mg/kg	420	690	330 J	360 J	680 J	320 J	520 J	520 J	570		
Thallium	0.81	0.124	mg/kg	0.1 J	0.16 J	0.099 J	0.11 J	0.19	0.11 J	0.14 J	0.1 J	0.12		
Vanadium	117.2	85.19	mg/kg	72	120	65	72	120	72	93	60	85		
Zinc	410	83.94	mg/kg	72	130	65 J-	74 J-	120 J-	87 J	88 J	69 J	82		
Mercury	2.28	0.258	mg/kg	0.2	0.44	0.15	0.18	0.42	0.24	0.26	0.16	0.22		

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

U: Not Detected above the LOD

J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID J5			DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	DUT K2	DUT K2	
Depth (Feet)			5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Chemical	CC	UCL95	Units									
Aluminum	77000*	23722	mg/kg		27000	24000	20000	33000	30000	20000	31000	27000
Antimony	25	0.349	mg/kg	J	0.33 J	0.27 J	0.43 UJ	0.3 J	0.33 J	0.42 UJ	0.41 J	0.3 J
Arsenic	11.1	10.46	mg/kg	J	17 J	9.6 J	6.3 J	15 J	14 J	7.4 J	15	14 J
Barium	314.4	180	mg/kg		190	150	170	200	200	200	210	170
Beryllium	0.71	0.478	mg/kg		0.54	0.49	0.35	0.68	0.64	0.34	0.69	0.53
Cadmium	4.2	0.558	mg/kg	J	0.75 J	0.59 J	0.42 J	0.78 J	0.77 J	0.32 J	0.74	0.71 J
Chromium	120000	81.36	mg/kg	J	78 J	76 J	68 J	97 J	89 J	67 J	98	81 J
Cobalt	76.39	18.04	mg/kg		19	18	15	21	20	16	21	19
Copper	270	62.49	mg/kg		73	59	40	86	79	38	85	73
Iron	93000	32250	mg/kg	J	36000 J	30000 J	29000 J	40000 J	38000 J	28000 J	39000	36000 J
Lead	155	15.17	mg/kg		17	13	11	21	20	10	20	16
Manganese	2433	579.5	mg/kg		590	540	510	730	730	450	660	650
Molybdenum	2.68	0.64	mg/kg	J	0.78 J	0.65 J	0.38 J	1 J	0.95 J	0.43 J	0.92	0.8 J
Nickel	112	86.56	mg/kg	J	82 J	78 J	78 J	96 J	90 J	79 J	95	85 J
Selenium	1.95	0.396	mg/kg	J-	0.49 J-	0.35 J-	0.23 J-	0.59 J-	0.53 J-	0.2 J-	0.56	0.45 J-
Silver	1.43	0.175	mg/kg	J	0.18 J	0.15 J	0.16 J	0.21 J	0.22 J	0.11 J	0.21	0.17 J
Sodium	2300	498.5	mg/kg	J	570 J	560 J	300 J	530 J	540 J	350 J	610	540 J
Thallium	0.81	0.124	mg/kg	J	0.15 J	0.13 J	0.1 J	0.17 J	0.17	0.11 J	0.17 J	0.15 J
Vanadium	117.2	85.19	mg/kg		99	83	65	110	100	66	110	93
Zinc	410	83.94	mg/kg	J	100 J	88 J	72 J	100 J	100 J	70 J	110	97 J
Mercury	2.28	0.258	mg/kg		0.36	0.3	0.17	0.34	0.43	0.17	0.39	0.44

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT I
				Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
					Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019
Aluminum	77000*	23722	mg/kg	16000	26000	21000	17000	19000	28000	15000	28000	28000	23000	
Antimony	25	0.349	mg/kg	0.42 UJ	0.29 J	0.23 J	0.42 UJ	0.54 U	0.39 J	0.43 UJ	0.4 J	0.43	0.31	
Arsenic	11.1	10.46	mg/kg	4.7 J	13 J	8.7 J	7.1 J	6.8	12	5 J	14	9.9		
Barium	314.4	180	mg/kg	130	180	190	190	170	190	140 J	190	190	160	
Beryllium	0.71	0.478	mg/kg	0.27	0.52	0.38	0.31	0.38	0.57	0.27	0.6	0.27	0.5	
Cadmium	4.2	0.558	mg/kg	0.24 J	0.69 J	0.47 J	0.32 J	0.37	0.68	0.21 J	0.85	0.85	0.57	
Chromium	120000	81.36	mg/kg	57 J	79 J	69 J	59 J	67	86	60	85	85	74	
Cobalt	76.39	18.04	mg/kg	13	20	16	15	15	20	13	21	21	17	
Copper	270	62.49	mg/kg	25	71	48	35	36	75	24	77	77	57	
Iron	93000	32250	mg/kg	25000 J	34000 J	28000 J	24000 J	28000	35000	23000	36000	36000	30000	
Lead	155	15.17	mg/kg	7	17	13	9.3	8.3	15	6.4	17	17	12	
Manganese	2433	579.5	mg/kg	340	630	450	410	420	630	340	730	730	490	
Molybdenum	2.68	0.64	mg/kg	0.32 J	0.79 J	0.54 J	0.4 J	0.45	0.88	0.28 J	0.81	0.81	0.61	
Nickel	112	86.56	mg/kg	65 J	82 J	76 J	69 J	78	90	67	88	88	75	
Selenium	1.95	0.396	mg/kg	0.12 J-	0.43 J-	0.27 J-	0.19 J-	0.23 J	0.52	0.17 J	0.52	0.52	0.36	
Silver	1.43	0.175	mg/kg	0.088 J	0.18 J	0.13 J	0.1 J	0.091 J	0.18	0.078 J	0.2	0.078 J	0.2	0.13
Sodium	2300	498.5	mg/kg	250 J	510 J	340 J	290 J	400	740	310 J	600	600	610	
Thallium	0.81	0.124	mg/kg	0.08 J	0.14 J	0.11 J	0.093 J	0.096 J	0.15 J	0.078 J	0.15 J	0.078 J	0.13	
Vanadium	117.2	85.19	mg/kg	57	91	69	59	68	99	58 J	98	58 J	82	
Zinc	410	83.94	mg/kg	55 J	93 J	77 J	63 J	65	100	52	100	52	88	
Mercury	2.28	0.258	mg/kg	0.11	0.38	0.27	0.16	0.24	0.32	0.11 J	0.7 J	0.11 J	0.7 J	0.35

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID K5			DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	DUT L2	DUT L3	DUT L3
Chemical	CC	UCL95	Units	0-5	5-10	10-15	0-5	5-10	10-15	0-5
Depth (Feet)	5	Date	019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	5-10
Aluminum	77000*	23722	mg/kg	20000	27000	27000	22000	28000	23000	29000
Antimony	25	0.349	mg/kg	J	0.44 UJ	0.45 J	0.33 J	0.3 J	0.34 J	0.26 J
Arsenic	11.1	10.46	mg/kg		6.6 J	12	12 J	10 J	13 J	9.6 J
Barium	314.4	180	mg/kg		160 J	170	180 J	220 J	200 J	160 J
Beryllium	0.71	0.478	mg/kg		0.39	0.52	0.54	0.47	0.64	0.47
Cadmium	4.2	0.558	mg/kg		0.45 J	0.72	0.67 J	0.45 J	0.76 J	0.54 J
Chromium	120000	81.36	mg/kg		69	85	81	74	92	71
Cobalt	76.39	18.04	mg/kg		15	19	20	17	19	18
Copper	270	62.49	mg/kg		42	75	66	54	77	54
Iron	93000	32250	mg/kg		30000	34000	37000	31000	37000	30000
Lead	155	15.17	mg/kg		11	17	13	14	18	11
Manganese	2433	579.5	mg/kg		480	650	700	540	630	520
Molybdenum	2.68	0.64	mg/kg		0.38	0.85	0.72	0.56	0.76	0.59
Nickel	112	86.56	mg/kg		80	89	85	81	93	75
Selenium	1.95	0.396	mg/kg		0.28 J	0.46	0.46 J	0.37 J	0.55 J	0.38 J
Silver	1.43	0.175	mg/kg		0.19 J	0.19	0.14 J	0.17 J	0.19 J	0.13 J
Sodium	2300	498.5	mg/kg		280 J	520	700 J	490 J	560 J	510 J
Thallium	0.81	0.124	mg/kg	J	0.1 J	0.13 J	0.15 J	0.12 J	0.16 J	0.13 J
Vanadium	117.2	85.19	mg/kg		71 J	97	97 J	80 J	110 J	81 J
Zinc	410	83.94	mg/kg		76	89	100	81	98	83
Mercury	2.28	0.258	mg/kg	J	0.17 J	0.3 J	0.38 J	0.3 J	0.39 J	0.34 J
										0.31 J
										0.41 J

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

* - EPA Residential RSL

Green - Result exceeds the CC

mg/kg: milligrams per kilogram

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J: Estimated Value

J-: Low matrix spike recovery

TABLE 1
DUTRA METALS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	UCL95	Units	Location ID		DUT L3	DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
				Depth (Feet)	Date	10-15	0-5	5-10	10-15	0-5	5-10	10-15
						7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019	7/31/2019
Aluminum	77000*	23722	mg/kg	25000		17000	16000	22000	27000	22000	31000	
Antimony	25	0.349	mg/kg	0.32 J		0.43 UJ	0.42 UJ	0.3 J	0.31 J	0.24 J	0.43 J	
Arsenic	11.1	10.46	mg/kg	13 J		6.3 J	6.1 J	9.4 J	13 J	8.4 J	12 J	
Barium	314.4	180	mg/kg	180 J		170 J	110 J	160 J	210 J	180 J	180	
Beryllium	0.71	0.478	mg/kg	0.54		0.32	0.29	0.45	0.61	0.45	0.62	
Cadmium	4.2	0.558	mg/kg	0.67 J		0.44 J	0.23 J	0.41 J	0.97 J	0.48 J	0.69 J	
Chromium	120000	81.36	mg/kg	75		62	53	73	92	76	92	
Cobalt	76.39	18.04	mg/kg	16		15	13	14	20	17	20	
Copper	270	62.49	mg/kg	66		32	28	50	78	50	79	
Iron	93000	32250	mg/kg	34000		26000	23000	30000	38000	31000	38000	
Lead	155	15.17	mg/kg	14		7.6	6.3	10	17	14	17 J	
Manganese	2433	579.5	mg/kg	540		420	330	390	720	530	660	
Molybdenum	2.68	0.64	mg/kg	0.71		0.45	0.32	0.57	0.78	0.54	0.98	
Nickel	112	86.56	mg/kg	77		73	56	72	95	84	92 J	
Selenium	1.95	0.396	mg/kg	0.45 J		0.22 J	0.18 J	0.36 J	0.51 J	0.34 J	0.54 J-	
Silver	1.43	0.175	mg/kg	0.17 J		0.078 J	0.064 J	0.12 J	0.18 J	0.18 J	0.19 J	
Sodium	2300	498.5	mg/kg	530 J		310 J	430 J	690 J	520 J	360 J	740	
Thallium	0.81	0.124	mg/kg	0.13 J		0.091 J	0.08 J	0.11 J	0.15 J	0.12 J	0.14 J	
Vanadium	117.2	85.19	mg/kg	87 J		62 J	56 J	80 J	100 J	77 J	110	
Zinc	410	83.94	mg/kg	92		63	61	80	100	82	100 J-	
Mercury	2.28	0.258	mg/kg	0.34 J		0.15 J	0.13 J	0.28 J	0.35 J-	0.21 J-	0.38 J-	

CC - Comparison Criterion - HPNS Parcel E RD, Aug 2014

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT A1		DUT A1		DUT A1		DUT A2		DUT A2		DUT A3		DUT A3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
				Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U							
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,1,2-Trichloroethane	11000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
1,2,3-Trichlorobenzene	490000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2,3-Trichloropropane	50	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2,4-Trichlorobenzene	220000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2,4-Trimethylbenzene	620000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2-Dibromo-3-chloropropane	54	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2-Dibromoethane	340	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
1,2-Dichlorobenzene	19000000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,2-Dichloroethane	4300	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
1,2-Dichloropropane	9400	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.3 U	1.7 UJ	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U							
1,3-Dichloropropane	16000000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
1,4-Dichlorobenzene	24000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
2-Butanone	280000000	ug/kg	6.1 U	6.5 U	8.6 U	5.9 U	7.3 UJ	6.4 UJ	6.7 U	7.1 U	6.3 U							
2-chlorotoluene	16000000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
2-Hexanone	210000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
4-Chlorotoluene	16000000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
4-methyl-2-pentanone	5300000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
Acetone	610000000	ug/kg	6.1 U	6.5 U	8.6 U	37	61 J	35 J	38 J	28 J	24 J							
Benzene	11000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
Bromobenzene	3000000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U							
Bromochloromethane	1600000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
Bromodichloromethane	2700	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
Bromoform	620000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U							
Bromomethane	73000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
Carbon Disulfide	8200000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
Carbon Tetrachloride	6100	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
Chlorobenzene	2900000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U							
Chloroform	2900	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
Chloromethane	1200000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							
Cis-1,2-Dichloroethene	1600000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U							
Dibromochloromethane	6800	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U							

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT A1		DUT A1		DUT A2		DUT A2		DUT A3		DUT A3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
				Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019		
Dibromomethane	250000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Dichlorodifluoromethane	940000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Ethylbenzene	54000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U					
Hexachlorobutadiene	62000	ug/kg	1.2 U	1.3 U	1.7 UJ	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U					
m-,p-Xylene		ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U					
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Methylene chloride	560000	ug/kg	16	18	22	13	23 J	20 J	15	14	14					
n-Butylbenzene	39000000	ug/kg	2.5 U	2.6 U	3.4 UJ	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U					
n-Propylbenzene	34000000	ug/kg	1.2 U	1.3 U	1.7 UJ	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U					
o-Xylene	6900000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U					
Styrene	63000000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 UJ	1.3 U	1.4 U	1.3 U					
Tetrachloroethene	220000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 UJ	2.7 U	2.8 U	2.5 U					
Toluene	50000000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Trans-1,2-Dichloroethene	1500000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U					
Trans-1,3-Dichloropropene	17000	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Trichloroethene	9100	ug/kg	2.5 U	2.6 U	3.4 U	2.4 U	2.9 UJ	2.6 U	2.7 U	2.8 U	2.5 U					
Trichlorofluoromethane	7900000	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U					
Vinyl chloride	600	ug/kg	1.2 U	1.3 U	1.7 U	1.2 U	1.5 UJ	1.3 U	1.3 U	1.4 U	1.3 U					

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2	DUT B2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
	Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,1,2-Trichloroethane	11000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,2,3-Trichlorobenzene	490000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2,3-Trichloropropane	50	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2,4-Trichlorobenzene	220000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2,4-Trimethylbenzene	620000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2-Dibromo-3-chloropropane	54	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2-Dibromoethane	340	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,2-Dichlorobenzene	19000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2-Dichloroethane	4300	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,2-Dichloropropane	9400	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
1,3-Dichloropropane	16000000	ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
1,4-Dichlorobenzene	24000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
2-Butanone	280000000	ug/kg	5.8 U	6.6 U	7.2 U	4.8 J	6.3 U	6.7 U	6.8 UJ	6.9 UJ	6.2 UJ
2-chlorotoluene	16000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
2-Hexanone	2100000	ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
4-Chlorotoluene	16000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
4-methyl-2-pentanone	53000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Acetone	610000000	ug/kg	5.8 U	27 J	35 J	37 J	32 J	44 J	30 J	24 J	46 J
Benzene	11000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Bromobenzene	3000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Bromochloromethane	1600000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Bromodichloromethane	2700	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Bromoform	620000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Bromomethane	73000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Carbon Disulfide	8200000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Carbon Tetrachloride	6100	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Chlorobenzene	2900000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Chloroform	2900	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Chloromethane	1200000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Cis-1,2-Dichloroethene	1600000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Dibromochloromethane	6800	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2	DUT B2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
Dibromomethane	250000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Dichlorodifluoromethane	940000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Ethylbenzene	54000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Hexachlorobutadiene	62000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
m-,p-Xylene		ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Methylene chloride	560000	ug/kg	12	14	9.1	9.5	14 J	14	13 J	12 J	10 J
n-Butylbenzene	39000000	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
n-Propylbenzene	34000000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
o-Xylene	6900000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Styrene	63000000	ug/kg	1.2 UJ	1.3 U	1.4 UJ	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Tetrachloroethene	220000	ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Toluene	50000000	ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Trans-1,2-Dichloroethene	1500000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Trans-1,3-Dichloropropene	17000	ug/kg	2.3 UJ	2.7 U	2.9 UJ	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Trichloroethene	9100	ug/kg	2.3 U	2.7 U	2.9 U	2.6 U	2.5 U	2.7 U	2.7 UJ	2.8 UJ	2.5 UJ
Trichlorofluoromethane	7900000	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ
Vinyl chloride	600	ug/kg	1.2 U	1.3 U	1.4 U	1.3 U	1.3 U	1.3 U	1.4 UJ	1.4 UJ	1.2 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	DUT B5	DUT B5	DUT B5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.3 U	X	1.3 U	1.2 UJ	1.2 U	1.3 U	X	1.3 U	1.3 U
1,1,1-Trichloroethane	87000000	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.6 U	X	2.5 U	2.5 UJ	2.3 U	2.6 U	X	2.6 U	2.5 U
1,1,2-Trichloroethane	11000	ug/kg	1.3 U	X	1.2 U	1.2 U	1.1 U	1.3 U	X	1.2 UJ	1.3 U
1,1-Dichloroethane	33000	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
1,1-Dichloroethene	2400000	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.6 UJ	4.1 J	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
1,2,3-Trichloropropane	50	ug/kg	2.6 U	X	2.5 U	2.5 UJ	2.3 U	2.6 U	X	2.6 U	2.5 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.6 UJ	5.7 J	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
1,2,4-Trimethylbenzene	620000	ug/kg	2.6 UJ	X	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
1,2-Dibromo-3-chloropropane	54	ug/kg	2.6 U	X	2.5 U	2.5 UJ	2.3 U	2.6 U	X	2.6 U	2.5 U
1,2-Dibromoethane	340	ug/kg	1.3 UJ	X	1.3 U	1.2 U	1.2 U	1.3 UJ	X	1.3 U	1.3 UJ
1,2-Dichlorobenzene	19000000	ug/kg	2.6 U	X	2.5 U	2.5 UJ	2.3 U	2.6 U	X	2.6 U	2.5 U
1,2-Dichloroethane	4300	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
1,2-Dichloropropane	9400	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.3 UJ	X	1.3 U	1.2 UJ	1.2 U	1.3 UJ	X	1.3 U	1.3 UJ
1,3-Dichloropropane	16000000	ug/kg	2.6 U	X	2.5 U	2.5 UJ	2.3 U	2.6 U	X	2.6 U	2.5 U
1,4-Dichlorobenzene	24000	ug/kg	2.6 UJ	X	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
2-Butanone	280000000	ug/kg	6.4 UJ	X	6.3 U	6.2 U	5.8 U	6.6 UJ	X	6.5 U	6.3 UJ
2-chlorotoluene	16000000	ug/kg	2.6 UJ	X	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
2-Hexanone	2100000	ug/kg	2.6 UJ	X	1.4 J	2.5 U	1.4 J	2.6 UJ	X	2.6 U	2.5 UJ
4-Chlorotoluene	16000000	ug/kg	2.6 UJ	X	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
4-methyl-2-pentanone	53000000	ug/kg	2.6 UJ	X	2.5 U	2.5 U	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
Acetone	610000000	ug/kg	21 J	X	6.1 UJ	6.2 UJ	5.8 UJ	22 J	X	7.9 J	6.3 UJ
Benzene	11000	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
Bromobenzene	3000000	ug/kg	2.6 UJ	X	2.5 U	2.5 UJ	2.3 U	2.6 UJ	X	2.6 U	2.5 UJ
Bromochloromethane	1600000	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
Bromodichloromethane	2700	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
Bromoform	620000	ug/kg	1.3 UJ	X	1.3 U	1.2 UJ	1.2 U	1.3 UJ	X	1.3 U	1.3 UJ
Bromomethane	73000	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
Carbon Disulfide	8200000	ug/kg	1.3 UJ	X	1.3 U	1.2 U	1.2 U	1.3 UJ	X	1.3 U	1.3 UJ
Carbon Tetrachloride	6100	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
Chlorobenzene	2900000	ug/kg	1.3 U	X	1.3 U	1.2 UJ	1.2 U	1.3 U	X	1.3 U	1.3 U
Chloroform	2900	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
Chloromethane	1200000	ug/kg	1.3 U	X	1.3 U	1.2 U	1.2 U	1.3 U	X	1.3 U	1.3 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.6 U	X	2.5 U	2.5 U	2.3 U	2.6 U	X	2.6 U	2.5 U
Dibromochloromethane	6800	ug/kg	1.3 UJ	X	1.3 U	1.2 UJ	1.2 U	1.3 UJ	X	1.3 U	1.3 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT B3		DUT B3		DUT B3		DUT B4		DUT B4		DUT B5		DUT B5		DUT B5		
			Depth (Feet)	0-5		5-10		10-15		0-5		5-10		10-15		0-5		5-10		10-15	
				Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	
Dibromomethane	250000	ug/kg	2.6 U		X	2.5 U		2.5 U		2.3 U		2.6 U		X		2.6 U		2.5 U			
Dichlorodifluoromethane	940000	ug/kg	2.6 UJ		X	2.5 U		2.5 U		2.3 U		2.6 UJ		X		2.6 U		2.5 UJ			
Ethylbenzene	54000	ug/kg	1.3 U		X	1.3 U		1.2 UJ		1.2 U		1.3 U		X		1.3 U		1.3 U			
Hexachlorobutadiene	62000	ug/kg	1.3 UJ		X	1.3 U		1.2 UJ		1.2 U		1.3 UJ		X		1.3 U		1.3 UJ			
m-,p-Xylene		ug/kg	2.6 U		X	2.5 U		2.5 UJ		2.3 U		2.6 U		X		2.6 U		2.5 U			
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.6 U		X	2.5 U		2.5 U		2.3 U		2.6 U		X		2.6 U		2.5 U			
Methylene chloride	560000	ug/kg	11		X	8		10		10		11 J		5.3 J		7.6		11			
n-Butylbenzene	39000000	ug/kg	2.6 UJ		X	2.5 U		2.5 UJ		2.3 U		2.6 UJ		X		2.6 U		2.5 UJ			
n-Propylbenzene	34000000	ug/kg	1.3 UJ		X	1.3 U		1.2 UJ		1.2 U		1.3 UJ		X		1.3 U		1.3 UJ			
o-Xylene	6900000	ug/kg	1.3 U		X	1.3 U		1.2 UJ		1.2 U		1.3 U		X		1.3 U		1.3 U			
Styrene	63000000	ug/kg	1.3 U		X	1.3 U		1.2 UJ		1.2 U		1.3 U		X		1.3 U		1.3 U			
Tetrachloroethene	220000	ug/kg	2.6 U		X	2.5 U		2.5 UJ		2.3 U		2.6 U		X		2.6 U		2.5 U			
Toluene	50000000	ug/kg	2.6 U		X	2.5 U		2.5 U		2.3 U		2.6 U		X		2.6 U		2.5 U			
Trans-1,2-Dichloroethene	1500000	ug/kg	1.3 U		X	1.3 U		1.2 U		1.2 U		1.3 U		X		1.3 U		1.3 U			
Trans-1,3-Dichloropropene	17000	ug/kg	2.6 U		X	2.5 U		2.5 U		2.3 U		2.6 U		X		2.6 U		2.5 U			
Trichloroethene	9100	ug/kg	2.6 U		X	2.5 U		2.5 U		2.3 U		2.6 U		X		2.6 U		2.5 U			
Trichlorofluoromethane	7900000	ug/kg	1.3 UJ		X	1.3 U		1.2 U		1.2 U		1.3 UJ		X		1.3 U		1.3 UJ			
Vinyl chloride	600	ug/kg	1.3 U		X	1.3 U		1.2 U		1.2 U		1.3 U		X		1.3 U		1.3 U			

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT C1	DUT C1	DUT C1	DUT C2	DUT C2	DUT C2	DUT C3	DUT C3	DUT C3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/19/2019	7/19/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 U	1.3 U	1.2 UJ	1.4 U
1,1,1-Trichloroethane	87000000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.6 U	2.8 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.7 U
1,1,2-Trichloroethane	11000	ug/kg	1.3 U	1.4 U	1.3 UJ	0.66 J	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
1,1-Dichloroethane	33000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
1,1-Dichloroethene	2400000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
1,2,3-Trichloropropane	50	ug/kg	2.6 U	2.8 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.7 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.6 U	2.8 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.7 U
1,2-Dibromoethane	340	ug/kg	1.3 UJ	1.3 U	1.3 UJ	1.2 UJ	1.3 U	1.2 UJ	1.3 U	1.2 UJ	1.4 U
1,2-Dichlorobenzene	19000000	ug/kg	2.6 U	2.8 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.7 U
1,2-Dichloroethane	4300	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
1,2-Dichloropropane	9400	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.3 U	1.4 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 U	1.2 UJ	1.4 U
1,3-Dichloropropane	16000000	ug/kg	2.7 U	2.7 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.7 U
1,4-Dichlorobenzene	24000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
2-Butanone	280000000	ug/kg	6.4 U	6.7 U	6.7 UJ	5.9 U	46 J	6 UJ	6.7 U	6 UJ	6.8 U
2-chlorotoluene	16000000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
2-Hexanone	2100000	ug/kg	2.7 UJ	2.7 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
4-Chlorotoluene	16000000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
4-methyl-2-pentanone	53000000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
Acetone	610000000	ug/kg	35 J	31 J	62 J	34 J	100 J	76 J	27 J	71 J	61
Benzene	11000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
Bromobenzene	3000000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.4 UJ	2.7 U
Bromochloromethane	1600000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
Bromodichloromethane	2700	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
Bromoform	620000	ug/kg	1.3 UJ	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 U	1.2 UJ	1.4 U
Bromomethane	73000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
Carbon Disulfide	8200000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 UJ	1.3 U	1.2 UJ	1.4 U
Carbon Tetrachloride	6100	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
Chlorobenzene	2900000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 U	1.3 U	1.2 UJ	1.4 U
Chloroform	2900	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
Chloromethane	1200000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.4 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.4 UJ	2.7 U
Dibromochloromethane	6800	ug/kg	1.3 UJ	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 U	1.2 UJ	1.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT C1		DUT C1		DUT C1		DUT C2		DUT C2		DUT C3		DUT C3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
				Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019
Dibromomethane	250000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Dichlorodifluoromethane	940000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U							
Ethylbenzene	54000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 U	1.3 U	1.3 U	1.2 UJ	1.2 UJ	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
Hexachlorobutadiene	62000	ug/kg	1.3 U	1.4 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.3 U	1.2 UJ	1.2 UJ	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
m-,p-Xylene		ug/kg	2.7 U	2.7 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Methylene chloride	560000	ug/kg	9.5	8.6	9.3 J	9	14 J	10	11 J	13 J	10	11 J	13 J	10	11 J	13 J	14	
n-Butylbenzene	39000000	ug/kg	2.6 U	2.8 UJ	2.7 UJ	2.4 UJ	2.7 UJ	2.4 UJ	2.7 U	2.7 U	2.4 UJ	2.4 UJ	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
n-Propylbenzene	34000000	ug/kg	1.3 U	1.4 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.3 U	1.2 UJ	1.2 UJ	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
o-Xylene	6900000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
Styrene	63000000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 UJ	1.3 UJ	1.2 U	1.3 U	1.3 U	1.2 UJ	1.2 U	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
Tetrachloroethene	220000	ug/kg	2.7 U	2.7 U	2.7 UJ	2.4 UJ	2.7 UJ	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Toluene	50000000	ug/kg	2.7 U	2.7 U	2.7 UJ	2.4 UJ	2.7 U	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Trans-1,2-Dichloroethene	1500000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 U	1.2 UJ	1.2 U	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
Trans-1,3-Dichloropropene	17000	ug/kg	2.7 U	2.7 U	2.7 UJ	2.4 UJ	2.7 U	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Trichloroethene	9100	ug/kg	2.6 U	2.7 U	2.7 UJ	2.4 U	2.7 U	2.4 U	2.7 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.4 UJ	2.4 U	2.7 U	2.7 U	
Trichlorofluoromethane	7900000	ug/kg	1.3 U	1.3 U	1.3 UJ	1.2 U	1.3 U	1.2 U	1.3 U	1.2 U	1.2 UJ	1.2 U	1.3 U	1.2 UJ	1.2 U	1.4 U	1.4 U	
Vinyl chloride	600	ug/kg	1.3 U	1.3 U	1.3 UJ	1.3 U	1.3 U	1.2 U	1.3 U	1.3 U	1.2 U	1.3 U	1.2 U	1.3 U	1.2 U	1.4 U	1.4 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,1,1-Trichloroethane	87000000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,1,2,2-Tetrachloroethane	5600	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,1,2-Trichloroethane	11000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,1-Dichloroethane	33000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,1-Dichloroethene	2400000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,2,3-Trichlorobenzene	490000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2,3-Trichloropropane	50	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2,4-Trichlorobenzene	220000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2,4-Trimethylbenzene	620000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2-Dibromo-3-chloropropane	54	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2-Dibromoethane	340	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
1,2-Dichlorobenzene	19000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
1,2-Dichloroethane	4300	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
1,2-Dichloropropane	9400	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
1,3,5-Trimethylbenzene	7800000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 UJ	1.2 U	
1,3-Dichloropropane	16000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
1,4-Dichlorobenzene	24000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
2-Butanone	280000000	ug/kg	7.5 U	7.5 U	X	6 U	X	5.9 U	6 U	5.8 U	6.2 U	
2-chlorotoluene	16000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
2-Hexanone	210000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
4-Chlorotoluene	16000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
4-methyl-2-pentanone	5300000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Acetone	61000000	ug/kg	32	7.5 U	30 J	33 J	30 J	10 J	4 J	33 J	35	
Benzene	11000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Bromobenzene	3000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U	
Bromochloromethane	1600000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Bromodichloromethane	2700	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Bromoform	620000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Bromomethane	73000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Carbon Disulfide	8200000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Carbon Tetrachloride	6100	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Chlorobenzene	2900000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Chloroform	2900	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Chloromethane	1200000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	
Cis-1,2-Dichloroethene	1600000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U	
Dibromochloromethane	6800	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
			Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019
Dibromomethane	250000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Dichlorodifluoromethane	940000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Ethylbenzene	54000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U
Hexachlorobutadiene	62000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 UJ	1.2 U
m-,p-Xylene		ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Methylene chloride	560000	ug/kg	15	16	19 J	11	22 J	10	9.6 J	9.9 J	13
n-Butylbenzene	39000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 UJ	2.5 U
n-Propylbenzene	34000000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 UJ	1.2 U
o-Xylene	6900000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U
Styrene	63000000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U
Tetrachloroethene	220000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Toluene	50000000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Trans-1,2-Dichloroethene	150000	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U
Trans-1,3-Dichloropropene	17000	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Trichloroethene	9100	ug/kg	3 U	3 U	X	2.4 U	X	2.3 U	2.4 U	2.3 U	2.5 U
Trichlorofluoromethane	790000	ug/kg	1.5 U	1.5 U	X	1.2 UJ	X	1.2 U	1.2 U	1.2 U	1.2 U
Vinyl chloride	600	ug/kg	1.5 U	1.5 U	X	1.2 U	X	1.2 U	1.2 U	1.2 U	1.2 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,1,2-Trichloroethane	11000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2,3-Trichloropropane	50	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2-Dibromoethane	340	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,2-Dichlorobenzene	19000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2-Dichloroethane	4300	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,2-Dichloropropane	9400	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 UJ	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
1,3-Dichloropropane	16000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
1,4-Dichlorobenzene	24000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
2-Butanone	280000000	ug/kg	5.8 U	6.3 U	7.1 U	6 U	6.5 U	6.8 U	7.4 U	6.7 U	6.9 U
2-chlorotoluene	16000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
2-Hexanone	2100000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
4-Chlorotoluene	16000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
4-methyl-2-pentanone	53000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Acetone	610000000	ug/kg	35	39	51	19 J	22 J	4 J	33 UJ	27 U	28 UJ
Benzene	11000	ug/kg	1.2 J	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Bromobenzene	3000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Bromochloromethane	1600000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Bromodichloromethane	2700	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Bromoform	620000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Bromomethane	73000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Carbon Disulfide	8200000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Carbon Tetrachloride	6100	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Chlorobenzene	2900000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Chloroform	2900	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Chloromethane	1200000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Dibromochloromethane	6800	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019
Dibromomethane	250000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Dichlorodifluoromethane	940000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Ethylbenzene	54000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Hexachlorobutadiene	62000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 UJ	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
m-,p-Xylene		ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Methylene chloride	560000	ug/kg	10 J	9.3	11	7.6 J	9.4	11 J	16 U	11 U	14 U
n-Butylbenzene	39000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 UJ	2.6 U	2.7 U	3 U	2.7 U	2.8 U
n-Propylbenzene	34000000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 UJ	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
o-Xylene	6900000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Styrene	63000000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Tetrachloroethene	220000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Toluene	50000000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Trans-1,2-Dichloroethene	1500000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Trans-1,3-Dichloropropene	17000	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Trichloroethene	9100	ug/kg	2.3 U	2.5 U	2.9 U	2.4 U	2.6 U	2.7 U	3 U	2.7 U	2.8 U
Trichlorofluoromethane	7900000	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U
Vinyl chloride	600	ug/kg	1.2 U	1.3 U	1.4 U	1.2 U	1.3 U	1.4 U	1.5 U	1.3 U	1.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT D5	DUT D5	DUT D5	DUT E1	DUT E1	DUT E1	DUT E2	DUT E2	DUT E2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
			Date	7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 U	1.1 U	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
1,1,2-Trichloroethane	11000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.4 U	2.3 U	2.6 U	5.3 U	6.6 UJ	6.7 U	5.6 U	6.2 U	5.6 U
1,2,3-Trichloropropane	50	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.4 U	2.3 U	2.6 U	5.3 U	6.6 UJ	6.7 U	5.6 U	6.2 U	5.6 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.4 U	2.3 U	2.6 U	5.3 U	6.6 UJ	6.7 U	5.6 U	6.2 U	5.6 U
1,2-Dibromoethane	340	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,2-Dichlorobenzene	19000000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
1,2-Dichloroethane	4300	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,2-Dichloropropane	9400	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.1 U	1.3 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
1,3-Dichloropropane	16000000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
1,4-Dichlorobenzene	24000	ug/kg	2.4 U	2.3 U	2.6 U	1.1 U	1.3 UJ	1.3 U	1.1 U	1.2 U	1.1 U
2-Butanone	280000000	ug/kg	6 U	X	6.4 U	5.3 U	6.6 U	6.7 U	5.6 U	6.2 U	5.6 U
2-chlorotoluene	16000000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
2-Hexanone	2100000	ug/kg	2.4 U	X	2.6 U	5.3 U	6.6 U	6.7 U	5.6 U	6.2 U	5.6 U
4-Chlorotoluene	16000000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
4-methyl-2-pentanone	53000000	ug/kg	2.4 U	X	2.6 U	5.3 U	6.6 U	6.7 U	5.6 U	6.2 U	5.6 U
Acetone	610000000	ug/kg	69 UJ	X	36 UJ	11 U	13 U	13 U	11 U	12 U	11 U
Benzene	11000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Bromobenzene	3000000	ug/kg	2.4 U	2.3 U	2.6 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
Bromochloromethane	1600000	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Bromodichloromethane	2700	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Bromoform	620000	ug/kg	1.2 U	1.1 U	1.3 U	2.6 U	3.3 UJ	3.4 U	2.8 U	3.1 U	2.8 U
Bromomethane	73000	ug/kg	2.4 U	2.3 UJ	2.6 U	5.3 U	6.6 U	6.7 U	5.6 U	6.2 U	5.6 U
Carbon Disulfide	8200000	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Carbon Tetrachloride	6100	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Chlorobenzene	2900000	ug/kg	1.2 U	1.1 U	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Chloroform	2900	ug/kg	1.2 U	1.1 UJ	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Chloromethane	1200000	ug/kg	1.2 U	1.1 UJ	1.3 U	5.3 U	6.6 U	6.7 U	5.6 U	6.2 U	5.6 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.4 U	2.3 UJ	2.6 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U
Dibromochloromethane	6800	ug/kg	1.2 U	1.1 U	1.3 U	2.6 U	3.3 U	3.4 U	2.8 U	3.1 U	2.8 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT D5		DUT D5		DUT D5		DUT E1		DUT E1		DUT E2		DUT E2			
			Depth (Feet)		0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
			Date		7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019		
Dibromomethane	250000	ug/kg	2.4	U	2.3	UJ	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Dichlorodifluoromethane	940000	ug/kg	2.4	U	2.3	UJ	2.6	U	5.3	U	6.6	U	6.7	U	5.6	U	6.2	U	5.6	U
Ethylbenzene	54000	ug/kg	1.2	U	1.1	U	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Hexachlorobutadiene	62000	ug/kg	1.2	U	1.1	U	1.3	U	2.6	U	3.3	UJ	3.4	U	2.8	U	3.1	U	2.8	U
m-,p-Xylene		ug/kg	2.4	U	2.3	U	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.4	U	2.3	UJ	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Methylene chloride	560000	ug/kg	9.8	U	2.3	UJ	11	U	5.3	U	6.6	U	6.7	U	5.6	U	6.2	U	5.6	U
n-Butylbenzene	39000000	ug/kg	2.4	U	2.3	U	2.6	U	2.6	U	3.3	UJ	3.4	U	2.8	U	3.1	U	2.8	U
n-Propylbenzene	34000000	ug/kg	1.2	U	1.1	U	1.3	U	2.6	U	3.3	UJ	3.4	U	2.8	U	3.1	U	2.8	U
o-Xylene	6900000	ug/kg	1.2	U	1.1	U	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Styrene	63000000	ug/kg	1.2	U	1.1	U	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Tetrachloroethene	220000	ug/kg	2.4	U	2.3	U	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Toluene	50000000	ug/kg	2.4	U	2.3	UJ	2.6	U	5.3	U	6.6	U	6.7	U	5.6	U	6.2	U	5.6	U
Trans-1,2-Dichloroethene	150000	ug/kg	1.2	U	1.1	UJ	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Trans-1,3-Dichloropropene	17000	ug/kg	2.4	U	2.3	UJ	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Trichloroethene	9100	ug/kg	2.4	U	2.3	UJ	2.6	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Trichlorofluoromethane	790000	ug/kg	1.2	U	1.1	UJ	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U
Vinyl chloride	600	ug/kg	1.2	U	1.1	UJ	1.3	U	2.6	U	3.3	U	3.4	U	2.8	U	3.1	U	2.8	U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT E3	DUT E3	DUT E3	DUT E4	DUT E4	DUT E4	DUT E5	DUT E5	DUT E5	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,1,2-Trichloroethane	11000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,2,3-Trichlorobenzene	490000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2,3-Trichloropropane	50	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2,4-Trichlorobenzene	220000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2,4-Trimethylbenzene	620000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2-Dibromo-3-chloropropane	54	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2-Dibromoethane	340	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,2-Dichlorobenzene	19000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2-Dichloroethane	4300	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,2-Dichloropropane	9400	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
1,3-Dichloropropane	16000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
1,4-Dichlorobenzene	24000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
2-Butanone	280000000	ug/kg	6.2 U	7 U	5.8 U	5.8 U	6.3 U	5.7 U	5.5 U	6.4 U	6.2 U	
2-chlorotoluene	16000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
2-Hexanone	2100000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
4-Chlorotoluene	16000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
4-methyl-2-pentanone	53000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Acetone	610000000	ug/kg	35 UJ	7 U	5.8 U	5.8 U	6.3 U	5.7 U	5.5 U	6.4 U	6.2 U	
Benzene	11000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
Bromobenzene	3000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Bromochloromethane	1600000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Bromodichloromethane	2700	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Bromoform	620000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
Bromomethane	73000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Carbon Disulfide	8200000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
Carbon Tetrachloride	6100	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Chlorobenzene	2900000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
Chloroform	2900	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	
Chloromethane	1200000	ug/kg	6.2 U	14 U	5.8 U	12 U	13 U	11 U	11 U	13 U	12 U	
Cis-1,2-Dichloroethene	1600000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U	
Dibromochloromethane	6800	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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TABLE 2
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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT E3		DUT E3		DUT E3		DUT E4		DUT E4		DUT E5		DUT E5		DUT E5	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
				Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019		
Dibromomethane	250000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Dichlorodifluoromethane	940000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Ethylbenzene	54000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
Hexachlorobutadiene	62000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
m-,p-Xylene		ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Methylene chloride	560000	ug/kg	13 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
n-Butylbenzene	39000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
n-Propylbenzene	34000000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
o-Xylene	6900000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
Styrene	63000000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
Tetrachloroethene	220000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Toluene	50000000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Trans-1,2-Dichloroethene	1500000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
Trans-1,3-Dichloropropene	17000	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Trichloroethene	9100	ug/kg	2.5 U	2.8 U	2.3 U	2.3 U	2.5 U	2.3 U	2.2 U	2.6 U	2.5 U									
Trichlorofluoromethane	7900000	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									
Vinyl chloride	600	ug/kg	1.2 U	1.4 U	1.2 U	1.2 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U									

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT F1	DUT F1	DUT F1	DUT F2	DUT F2	DUT F2	DUT F3	DUT F3	DUT F3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U	
1,1,1-Trichloroethane	87000000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
1,1,2-Trichloroethane	11000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
1,1-Dichloroethane	33000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
1,1-Dichloroethene	2400000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U	
1,2,3-Trichlorobenzene	490000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
1,2,3-Trichloropropane	50	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
1,2,4-Trichlorobenzene	220000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
1,2,4-Trimethylbenzene	620000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
1,2-Dibromo-3-chloropropane	54	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U	
1,2-Dibromoethane	340	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U	
1,2-Dichlorobenzene	19000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
1,2-Dichloroethane	4300	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
1,2-Dichloropropane	9400	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
1,3,5-Trimethylbenzene	7800000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
1,3-Dichloropropane	16000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
1,4-Dichlorobenzene	24000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
2-Butanone	280000000	ug/kg	5.7 U	5.7 U	6.1 U	5.4 U	6.2 U	6.2 U	5.4 U	33 J	7 U	
2-chlorotoluene	16000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
2-Hexanone	2100000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U	
4-Chlorotoluene	16000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
4-methyl-2-pentanone	53000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
Acetone	610000000	ug/kg	5.7 U	5.7 U	6.1 U	5.4 U	6.2 U	6.2 U	5.4 U	130 U	7 U	
Benzene	11000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
Bromobenzene	3000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
Bromochloromethane	1600000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U	
Bromodichloromethane	2700	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U	
Bromoform	620000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	38 U	1.4 U	
Bromomethane	73000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U	
Carbon Disulfide	8200000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
Carbon Tetrachloride	6100	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U	
Chlorobenzene	2900000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U	
Chloroform	2900	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
Chloromethane	1200000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	
Cis-1,2-Dichloroethene	1600000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U	
Dibromochloromethane	6800	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT F1		DUT F1		DUT F1		DUT F2		DUT F2		DUT F3		DUT F3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
				Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
Dibromomethane	250000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U							
Dichlorodifluoromethane	940000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	38 U	2.8 U							
Ethylbenzene	54000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							
Hexachlorobutadiene	62000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							
m-,p-Xylene		ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U							
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U							
Methylene chloride	560000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	24 J	2.8 U							
n-Butylbenzene	39000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U							
n-Propylbenzene	34000000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							
o-Xylene	6900000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							
Styrene	63000000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	9.5 U	1.4 U							
Tetrachloroethene	220000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U							
Toluene	50000000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	8.8 J	2.8 U							
Trans-1,2-Dichloroethene	1500000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							
Trans-1,3-Dichloropropene	17000	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	9.5 U	2.8 U							
Trichloroethene	9100	ug/kg	2.3 U	2.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.2 U	19 U	2.8 U							
Trichlorofluoromethane	7900000	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	38 U	1.4 U							
Vinyl chloride	600	ug/kg	1.1 U	1.1 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	19 U	1.4 U							

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT F4	DUT F4	DUT F4	DUT F5	DUT F5	DUT G1	DUT G1	DUT G1	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	
			Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.1 U	16 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,1,1-Trichloroethane	87000000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,1,2-Trichloroethane	11000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,1-Dichloroethane	33000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,1-Dichloroethene	2400000	ug/kg	1.1 U	16 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2,3-Trichloropropane	50	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.2 U	33 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2-Dibromoethane	340	ug/kg	1.1 U	16 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,2-Dichlorobenzene	19000000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2-Dichloroethane	4300	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,2-Dichloropropane	9400	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
1,3-Dichloropropane	16000000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
1,4-Dichlorobenzene	24000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
2-Butanone	280000000	ug/kg	5.4 U	29 J	5.2 U	5.2 U	5.3 U	5.3 U	5.8 U	6.8 U	6.4 U
2-chlorotoluene	16000000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
2-Hexanone	2100000	ug/kg	2.2 U	33 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
4-Chlorotoluene	16000000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
4-methyl-2-pentanone	53000000	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Acetone	610000000	ug/kg	5.4 U	110 U	5.2 U	5.2 U	5.3 U	5.3 U	5.8 U	6.8 U	6.4 U
Benzene	11000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Bromobenzene	3000000	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Bromochloromethane	1600000	ug/kg	2.2 U	33 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Bromodichloromethane	2700	ug/kg	2.2 U	16 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Bromoform	620000	ug/kg	1.1 U	33 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Bromomethane	73000	ug/kg	2.2 U	33 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Carbon Disulfide	8200000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Carbon Tetrachloride	6100	ug/kg	2.2 U	8.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Chlorobenzene	2900000	ug/kg	1.1 U	16 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Chloroform	2900	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Chloromethane	1200000	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.2 U	33 U	2.1 U	2.1 U	2.1 U	2.1 U	2.3 U	2.7 U	2.5 U
Dibromochloromethane	6800	ug/kg	1.1 U	8.1 U	1 U	1 U	1.1 U	1.1 U	1.2 U	1.4 U	1.3 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID			DUT F4			DUT F4			DUT F4			DUT F5			DUT F5			DUT G1			DUT G1					
			Depth (Feet)			0-5		5-10		10-15		0-5		5-10		10-15		0-5		5-10		10-15		0-5		5-10		10-15	
			Date	7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019		7/23/2019			
Dibromomethane	250000	ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.7 U		2.5 U			
Dichlorodifluoromethane	940000	ug/kg		2.2 U		33 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.7 U		2.5 U					
Ethylbenzene	54000	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U					
Hexachlorobutadiene	62000	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
m-,p-Xylene		ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U					
Methyl tert-butyl ether (MTBE)	430000	ug/kg		2.2 UJ		8.1 U		2.1 UJ		2.1 UJ		2.1 UJ		2.1 UJ		2.1 UJ		2.1 UJ		2.3 UJ		2.7 UJ		2.5 UJ					
Methylene chloride	560000	ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
n-Butylbenzene	39000000	ug/kg		2.2 U		8.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
n-Propylbenzene	34000000	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
o-Xylene	6900000	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
Styrene	63000000	ug/kg		1.1 U		8.1 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
Tetrachloroethene	220000	ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
Toluene	50000000	ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
Trans-1,2-Dichloroethene	1500000	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
Trans-1,3-Dichloropropene	17000	ug/kg		2.2 U		8.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
Trichloroethene	9100	ug/kg		2.2 U		16 U		2.1 U		2.1 U		2.1 U		2.1 U		2.1 U		2.3 U		2.7 U		2.5 U							
Trichlorofluoromethane	7900000	ug/kg		1.1 U		33 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							
Vinyl chloride	600	ug/kg		1.1 U		16 U		1 U		1 U		1 U		1.1 U		1.1 U		1.2 U		1.4 U		1.3 U							

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	DUT G4	DUT G4	DUT G4
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,1,1-Trichloroethane	87000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,1,2-Trichloroethane	11000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,1-Dichloroethane	33000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,1-Dichloroethene	2400000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,2,3-Trichlorobenzene	490000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,2,3-Trichloropropane	50	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,2,4-Trichlorobenzene	220000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,2,4-Trimethylbenzene	620000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,2-Dibromo-3-chloropropane	54	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
1,2-Dibromoethane	340	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,2-Dichlorobenzene	19000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,2-Dichloroethane	4300	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,2-Dichloropropane	9400	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
1,3,5-Trimethylbenzene	7800000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,3-Dichloropropane	16000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
1,4-Dichlorobenzene	24000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
2-Butanone	280000000	ug/kg	44 J	32 J	110 U	78 U	100 U	36 J	53 J	37 J	100 U
2-chlorotoluene	16000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
2-Hexanone	2100000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
4-Chlorotoluene	16000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
4-methyl-2-pentanone	5300000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Acetone	610000000	ug/kg	140 U	120 U	150 U	100 U	140 U	130 U	140 U	120 U	140 U
Benzene	11000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Bromobenzene	3000000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Bromochloromethane	1600000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Bromodichloromethane	2700	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Bromoform	620000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Bromomethane	73000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Carbon Disulfide	8200000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Carbon Tetrachloride	6100	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Chlorobenzene	2900000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Chloroform	2900	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Chloromethane	1200000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Cis-1,2-Dichloroethene	1600000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Dibromochloromethane	6800	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	DUT G4	DUT G4	DUT G4
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
Dibromomethane	250000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Dichlorodifluoromethane	940000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Ethylbenzene	54000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Hexachlorobutadiene	62000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
m-,p-Xylene		ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Methylene chloride	560000	ug/kg	37 J	15 J	21 J	16 U	28 J	16 J	22 J	18 U	15 J
n-Butylbenzene	39000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
n-Propylbenzene	34000000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
o-Xylene	6900000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Styrene	63000000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Tetrachloroethene	220000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Toluene	50000000	ug/kg	16 J	18 U	7.4 J	16 U	7.9 J	19 U	21 U	18 U	21 U
Trans-1,2-Dichloroethene	150000	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Trans-1,3-Dichloropropene	17000	ug/kg	11 U	8.9 U	11 U	7.8 U	10 U	9.5 U	11 U	9.1 U	10 U
Trichloroethene	9100	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U
Trichlorofluoromethane	790000	ug/kg	42 U	36 U	44 U	31 U	42 U	38 U	43 U	37 U	42 U
Vinyl chloride	600	ug/kg	21 U	18 U	22 U	16 U	21 U	19 U	21 U	18 U	21 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G5	DUT G5	DUT G5	DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
	Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,1,1-Trichloroethane	87000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,1,2-Trichloroethane	11000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,1-Dichloroethane	33000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,1-Dichloroethene	2400000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,2,3-Trichlorobenzene	490000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,2,3-Trichloropropane	50	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,2,4-Trichlorobenzene	220000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,2,4-Trimethylbenzene	620000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,2-Dibromo-3-chloropropane	54	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
1,2-Dibromoethane	340	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,2-Dichlorobenzene	19000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,2-Dichloroethane	4300	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,2-Dichloropropane	9400	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
1,3,5-Trimethylbenzene	7800000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,3-Dichloropropane	16000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
1,4-Dichlorobenzene	24000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
2-Butanone	280000000	ug/kg	33 J	91 U	110 U	100 U	110 U	39 J	80 U	47 J	44 J
2-chlorotoluene	16000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
2-Hexanone	2100000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
4-Chlorotoluene	16000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
4-methyl-2-pentanone	5300000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Acetone	610000000	ug/kg	100 U	120 U	150 U	140 U	150 U	150 U	110 U	130 U	140 U
Benzene	11000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Bromobenzene	3000000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Bromochloromethane	1600000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Bromodichloromethane	2700	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Bromoform	620000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Bromomethane	73000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Carbon Disulfide	8200000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Carbon Tetrachloride	6100	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Chlorobenzene	2900000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Chloroform	2900	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Chloromethane	1200000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Cis-1,2-Dichloroethene	1600000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Dibromochloromethane	6800	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G5	DUT G5	DUT G5	DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
	Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
Dibromomethane	250000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Dichlorodifluoromethane	940000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Ethylbenzene	54000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Hexachlorobutadiene	62000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
m-,p-Xylene		ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Methylene chloride	560000	ug/kg	15 U	18 U	22 U	10 J	22 U	18 J	16 U	20 U	21 U
n-Butylbenzene	39000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
n-Propylbenzene	34000000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
o-Xylene	6900000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Styrene	63000000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Tetrachloroethene	220000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Toluene	50000000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Trans-1,2-Dichloroethene	1500000	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Trans-1,3-Dichloropropene	17000	ug/kg	7.6 U	9.1 U	11 U	10 U	11 U	11 U	8 U	10 U	10 U
Trichloroethene	9100	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U
Trichlorofluoromethane	7900000	ug/kg	31 U	36 U	44 U	42 U	44 U	44 U	32 U	40 U	41 U
Vinyl chloride	600	ug/kg	15 U	18 U	22 U	21 U	22 U	22 U	16 U	20 U	21 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT H3	DUT H3	DUT H3	DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,1,1-Trichloroethane	87000000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,1,2-Trichloroethane	11000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,1-Dichloroethane	33000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,1-Dichloroethene	2400000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2,3-Trichloropropane	50	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2-Dibromoethane	340	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,2-Dichlorobenzene	19000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2-Dichloroethane	4300	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,2-Dichloropropane	9400	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
1,3-Dichloropropane	16000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
1,4-Dichlorobenzene	24000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
2-Butanone	280000000	ug/kg	6.7 UJ	6.4 U	6.3 U	6.8 U	5.3 U	5.8 U	5 U	5.3 U	7 U
2-chlorotoluene	16000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
2-Hexanone	2100000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
4-Chlorotoluene	16000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
4-methyl-2-pentanone	53000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Acetone	610000000	ug/kg	6.7 UJ	6.4 UJ	4.8 J	6.8 UJ	5.3 UJ	5.8 UJ	5 UJ	5.3 UJ	3.5 J
Benzene	11000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Bromobenzene	3000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Bromochloromethane	1600000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Bromodichloromethane	2700	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Bromoform	620000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Bromomethane	73000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Carbon Disulfide	8200000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Carbon Tetrachloride	6100	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Chlorobenzene	2900000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Chloroform	2900	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Chloromethane	1200000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Dibromochloromethane	6800	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

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PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT H3	DUT H3	DUT H3	DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019
Dibromomethane	250000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Dichlorodifluoromethane	940000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Ethylbenzene	54000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Hexachlorobutadiene	62000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
m-,p-Xylene		ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Methylene chloride	560000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
n-Butylbenzene	39000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
n-Propylbenzene	34000000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
o-Xylene	6900000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Styrene	63000000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Tetrachloroethene	220000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Toluene	50000000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Trans-1,2-Dichloroethene	1500000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Trans-1,3-Dichloropropene	17000	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Trichloroethene	9100	ug/kg	2.7 UJ	2.5 U	2.5 U	2.7 U	2.1 U	2.3 U	2 U	2.1 U	2.8 U
Trichlorofluoromethane	7900000	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U
Vinyl chloride	600	ug/kg	1.3 UJ	1.3 U	1.3 U	1.4 U	1.1 U	1.2 U	0.99 U	1.1 U	1.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I1	DUT I1	DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
	Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,1,1-Trichloroethane	87000000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,1,2-Trichloroethane	11000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,1-Dichloroethane	33000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,1-Dichloroethene	2400000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2,3-Trichloropropane	50	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2-Dibromoethane	340	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,2-Dichlorobenzene	19000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2-Dichloroethane	4300	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,2-Dichloropropane	9400	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
1,3-Dichloropropane	16000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
1,4-Dichlorobenzene	24000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
2-Butanone	280000000	ug/kg	5.5 U	6.7 U	6.7 J	5.2 U	5.3 J	6.6 U	6.4 U	6.7 U	6.7 U
2-chlorotoluene	16000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
2-Hexanone	2100000	ug/kg	2.6 J	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
4-Chlorotoluene	16000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
4-methyl-2-pentanone	53000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Acetone	610000000	ug/kg	5.5 UJ	2.6 J	130 J	5.2 UJ	10 J	2.8 J	6.4 UJ	4.3 J	6.7 UJ
Benzene	11000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Bromobenzene	3000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Bromochloromethane	1600000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Bromodichloromethane	2700	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Bromoform	620000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Bromomethane	73000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Carbon Disulfide	8200000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Carbon Tetrachloride	6100	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Chlorobenzene	2900000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Chloroform	2900	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Chloromethane	1200000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Dibromochloromethane	6800	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I1	DUT I1	DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019
Dibromomethane	250000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Dichlorodifluoromethane	940000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Ethylbenzene	54000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Hexachlorobutadiene	62000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
m-,p-Xylene		ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Methylene chloride	560000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
n-Butylbenzene	39000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
n-Propylbenzene	34000000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
o-Xylene	6900000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Styrene	63000000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Tetrachloroethene	220000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Toluene	50000000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Trans-1,2-Dichloroethene	1500000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Trans-1,3-Dichloropropene	17000	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Trichloroethene	9100	ug/kg	2.2 U	2.7 U	5.4 UJ	2.1 U	2.4 U	2.6 U	2.6 U	2.7 U	2.7 U
Trichlorofluoromethane	7900000	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U
Vinyl chloride	600	ug/kg	1.1 U	1.3 U	2.7 UJ	1 U	1.2 U	1.3 U	1.3 U	1.3 U	1.3 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I4	DUT I4	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
			Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,1,1-Trichloroethane	87000000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,1,2-Trichloroethane	11000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,1-Dichloroethane	33000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,1-Dichloroethene	2400000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,2,3-Trichlorobenzene	490000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2,3-Trichloropropane	50	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2,4-Trichlorobenzene	220000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2-Dibromo-3-chloropropane	54	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2-Dibromoethane	340	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,2-Dichlorobenzene	19000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2-Dichloroethane	4300	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,2-Dichloropropane	9400	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,3,5-Trimethylbenzene	7800000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
1,3-Dichloropropane	16000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
1,4-Dichlorobenzene	24000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
2-Butanone	280000000	ug/kg	5.9 U	5.7 U	6.9 U	5.3 U	5.5 U	6 U	5.8 U	5.5 U	7.4 U
2-chlorotoluene	16000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
2-Hexanone	2100000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
4-Chlorotoluene	16000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
4-methyl-2-pentanone	53000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Acetone	610000000	ug/kg	5.9 UJ	3.2 J	4.1 J	3.1 J	3.7 J	6 UJ	5.8 UJ	7.5 J	7.4 UJ
Benzene	11000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Bromobenzene	3000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Bromochloromethane	1600000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Bromodichloromethane	2700	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Bromoform	620000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Bromomethane	73000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Carbon Disulfide	8200000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Carbon Tetrachloride	6100	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Chlorobenzene	2900000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Chloroform	2900	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Chloromethane	1200000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Dibromochloromethane	6800	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

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PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I4	DUT I4	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
			Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019
Dibromomethane	250000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Dichlorodifluoromethane	940000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Ethylbenzene	54000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Hexachlorobutadiene	62000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
m-,p-Xylene		ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Methylene chloride	560000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
n-Butylbenzene	39000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
n-Propylbenzene	34000000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
o-Xylene	6900000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Styrene	63000000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Tetrachloroethene	220000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Toluene	50000000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Trans-1,2-Dichloroethene	1500000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Trans-1,3-Dichloropropene	17000	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Trichloroethene	9100	ug/kg	2.4 U	2.3 U	2.8 U	2.1 U	2.2 U	2.4 U	2.3 U	2.2 U	3 U
Trichlorofluoromethane	7900000	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U
Vinyl chloride	600	ug/kg	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.5 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT J2	DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,1,1-Trichloroethane	87000000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,1,2-Trichloroethane	11000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,1-Dichloroethane	33000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,1-Dichloroethene	2400000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,2,3-Trichlorobenzene	490000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
1,2,3-Trichloropropane	50	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,2,4-Trichlorobenzene	220000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
1,2,4-Trimethylbenzene	620000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,2-Dibromo-3-chloropropane	54	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
1,2-Dibromoethane	340	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,2-Dichlorobenzene	19000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,2-Dichloroethane	4300	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,2-Dichloropropane	9400	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,3,5-Trimethylbenzene	7800000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
1,3-Dichloropropane	16000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
1,4-Dichlorobenzene	24000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	1.3 U	1.1 U	1.3 U	
2-Butanone	280000000	ug/kg	5.3 U	5.3 U	7.1 U	5.5 U	5.5 U	6.3 U	6.7 U	5.5 U	6.3 U	
2-chlorotoluene	16000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
2-Hexanone	2100000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
4-Chlorotoluene	16000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
4-methyl-2-pentanone	53000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
Acetone	610000000	ug/kg	5.5 J	5.3 UJ	7.1 UJ	5.5 UJ	5.5 UJ	6.3 UJ	13 U	11 U	13 U	
Benzene	11000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
Bromobenzene	3000000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
Bromochloromethane	1600000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
Bromodichloromethane	2700	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
Bromoform	620000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
Bromomethane	73000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	6.7 U	5.5 U	6.3 U	
Carbon Disulfide	8200000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
Carbon Tetrachloride	6100	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
Chlorobenzene	2900000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
Chloroform	2900	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	
Chloromethane	1200000	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	6.7 U	5.5 U	6.3 U	
Cis-1,2-Dichloroethene	1600000	ug/kg	2.1 U	2.1 U	2.8 U	2.2 U	2.2 U	2.5 U	3.3 U	2.8 U	3.2 U	
Dibromochloromethane	6800	ug/kg	1.1 U	1.1 U	1.4 U	1.1 U	1.1 U	1.3 U	3.3 U	2.8 U	3.2 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT J2		DUT J2		DUT J3		DUT J3		DUT J4		DUT J4		DUT J4				
			Depth (Feet)	0-5		5-10		10-15		0-5		5-10		10-15		0-5		5-10		10-15	
				Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019		
Dibromomethane	250000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Dichlorodifluoromethane	940000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		6.7 U		5.5 U		6.3 U		
Ethylbenzene	54000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
Hexachlorobutadiene	62000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
m-,p-Xylene		ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Methylene chloride	560000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		6.7 U		5.5 U		6.3 U		
n-Butylbenzene	39000000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
n-Propylbenzene	34000000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
o-Xylene	6900000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
Styrene	63000000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
Tetrachloroethene	220000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Toluene	50000000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		6.7 U		5.5 U		6.3 U		
Trans-1,2-Dichloroethene	1500000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
Trans-1,3-Dichloropropene	17000	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Trichloroethene	9100	ug/kg	2.1 U		2.1 U		2.8 U		2.2 U		2.2 U		2.5 U		3.3 U		2.8 U		3.2 U		
Trichlorofluoromethane	7900000	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		
Vinyl chloride	600	ug/kg	1.1 U		1.1 U		1.4 U		1.1 U		1.1 U		1.3 U		3.3 U		2.8 U		3.2 U		

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT J5	DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	DUT K2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,1,1-Trichloroethane	87000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,1,2-Trichloroethane	11000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,1-Dichloroethane	33000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,1-Dichloroethene	2400000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2,3-Trichlorobenzene	490000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
1,2,3-Trichloropropane	50	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2,4-Trichlorobenzene	220000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
1,2,4-Trimethylbenzene	620000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2-Dibromo-3-chloropropane	54	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
1,2-Dibromoethane	340	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2-Dichlorobenzene	19000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2-Dichloroethane	4300	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,2-Dichloropropane	9400	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,3,5-Trimethylbenzene	7800000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,3-Dichloropropane	16000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
1,4-Dichlorobenzene	24000	ug/kg	1.2 U	1.1 U	1.3 U	1.1 U	1.4 U	1.4 U	1.1 U	1.2 U	1.4 U
2-Butanone	280000000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
2-chlorotoluene	16000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
2-Hexanone	2100000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
4-Chlorotoluene	16000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
4-methyl-2-pentanone	53000000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
Acetone	610000000	ug/kg	12 U	11 U	13 U	11 U	14 U	14 U	11 U	12 U	14 U
Benzene	11000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Bromobenzene	3000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Bromochloromethane	1600000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Bromodichloromethane	2700	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Bromoform	620000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Bromomethane	73000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
Carbon Disulfide	8200000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Carbon Tetrachloride	6100	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Chlorobenzene	2900000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Chloroform	2900	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Chloromethane	1200000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U
Cis-1,2-Dichloroethene	1600000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U
Dibromochloromethane	6800	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID			DUT J5			DUT K1			DUT K1			DUT K2		
			Depth (Feet)			0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019
Dibromomethane	250000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Dichlorodifluoromethane	940000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U						
Ethylbenzene	54000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Hexachlorobutadiene	62000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
m-,p-Xylene		ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Methyl tert-butyl ether (MTBE)	430000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Methylene chloride	560000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U						
n-Butylbenzene	39000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
n-Propylbenzene	34000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
o-Xylene	6900000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Styrene	63000000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Tetrachloroethene	220000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Toluene	50000000	ug/kg	6.2 U	5.4 U	6.3 U	5.4 U	7.1 U	6.9 U	5.4 U	6.1 U	7 U						
Trans-1,2-Dichloroethene	1500000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Trans-1,3-Dichloropropene	17000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Trichloroethene	9100	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Trichlorofluoromethane	7900000	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						
Vinyl chloride	600	ug/kg	3.1 U	2.7 U	3.2 U	2.7 U	3.6 U	3.4 U	2.7 U	3.1 U	3.5 U						

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT K5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,1,1-Trichloroethane	87000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,1,2-Trichloroethane	11000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,1-Dichloroethane	33000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,1-Dichloroethene	2400000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2,3-Trichlorobenzene	490000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
1,2,3-Trichloropropane	50	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2,4-Trichlorobenzene	220000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
1,2,4-Trimethylbenzene	620000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2-Dibromo-3-chloropropane	54	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
1,2-Dibromoethane	340	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2-Dichlorobenzene	19000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2-Dichloroethane	4300	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,2-Dichloropropane	9400	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,3,5-Trimethylbenzene	7800000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,3-Dichloropropane	16000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
1,4-Dichlorobenzene	24000	ug/kg	1.3 U	1.3 U	1.2 U	1.1 U	1.3 U	1.3 U	1 U	1.3 U	1.3 U
2-Butanone	280000000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
2-chlorotoluene	16000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
2-Hexanone	2100000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
4-Chlorotoluene	16000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
4-methyl-2-pentanone	53000000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
Acetone	610000000	ug/kg	13 U	13 U	12 U	11 U	9.2 J	13 U	10 U	13 U	13 U
Benzene	11000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Bromobenzene	3000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Bromochloromethane	1600000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Bromodichloromethane	2700	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Bromoform	620000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Bromomethane	73000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
Carbon Disulfide	8200000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Carbon Tetrachloride	6100	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Chlorobenzene	2900000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Chloroform	2900	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Chloromethane	1200000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
Cis-1,2-Dichloroethene	1600000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Dibromochloromethane	6800	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT K5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019
Dibromomethane	250000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Dichlorodifluoromethane	940000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
Ethylbenzene	54000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Hexachlorobutadiene	62000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
m-,p-Xylene		ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Methyl tert-butyl ether (MTBE)	430000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Methylene chloride	560000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
n-Butylbenzene	39000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
n-Propylbenzene	34000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
o-Xylene	6900000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Styrene	63000000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Tetrachloroethene	220000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Toluene	50000000	ug/kg	6.3 U	6.3 U	5.9 U	5.4 U	6.6 U	6.6 U	5.1 U	6.5 U	6.3 U
Trans-1,2-Dichloroethene	1500000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Trans-1,3-Dichloropropene	17000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Trichloroethene	9100	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Trichlorofluoromethane	7900000	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U
Vinyl chloride	600	ug/kg	3.2 U	3.2 U	3 U	2.7 U	3.3 U	3.3 U	2.6 U	3.3 U	3.2 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	DUT L2	DUT L3	DUT L3	DUT L3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
			Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,1,1-Trichloroethane	87000000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
1,1,2-Trichloroethane	11000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,1-Dichloroethane	33000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,1-Dichloroethene	2400000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,2,3-Trichlorobenzene	490000	ug/kg	5.9 UJ	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 UJ	6.8 U
1,2,3-Trichloropropane	50	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
1,2,4-Trichlorobenzene	220000	ug/kg	5.9 UJ	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 UJ	6.8 U
1,2,4-Trimethylbenzene	620000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
1,2-Dibromo-3-chloropropane	54	ug/kg	5.9 UJ	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 UJ	6.8 U
1,2-Dibromoethane	340	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,2-Dichlorobenzene	19000000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
1,2-Dichloroethane	4300	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,2-Dichloropropane	9400	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,3,5-Trimethylbenzene	7800000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
1,3-Dichloropropane	16000000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
1,4-Dichlorobenzene	24000	ug/kg	1.2 UJ	1.1 U	1.3 U	1.2 U	1.2 U	1.3 U	1.2 U	1.3 UJ	1.4 U
2-Butanone	280000000	ug/kg	5.9 U	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 U	6.8 U
2-chlorotoluene	16000000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
2-Hexanone	2100000	ug/kg	5.9 U	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 U	6.8 U
4-Chlorotoluene	16000000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
4-methyl-2-pentanone	53000000	ug/kg	5.9 U	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 U	6.8 U
Acetone	610000000	ug/kg	12 U	11 U	13 U	12 U	12 U	13 U	12 U	13 U	14 U
Benzene	11000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Bromobenzene	3000000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
Bromochloromethane	1600000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Bromodichloromethane	2700	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Bromoform	620000	ug/kg	2.9 UJ	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 UJ	3.4 U
Bromomethane	73000	ug/kg	5.9 U	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 U	6.8 U
Carbon Disulfide	8200000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Carbon Tetrachloride	6100	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Chlorobenzene	2900000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Chloroform	2900	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Chloromethane	1200000	ug/kg	5.9 U	5.6 U	6.7 U	6.2 U	6.1 U	6.5 U	6 U	6.6 U	6.8 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U
Dibromochloromethane	6800	ug/kg	2.9 U	2.8 U	3.4 U	3.1 U	3 U	3.2 U	3 U	3.3 U	3.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID		DUT L1		DUT L1		DUT L2		DUT L2		DUT L3		DUT L3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
				Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019		
Dibromomethane	250000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.3 U	3.4 U		
Dichlorodifluoromethane	940000	ug/kg	5.9 U	5.6 U	6.7 U		6.2 U	6.1 U	6.5 U	6 U	6.6 U		6.8 U			
Ethylbenzene	54000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Hexachlorobutadiene	62000	ug/kg	2.9 UJ	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 UJ		3.4 U			
m-,p-Xylene		ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Methylene chloride	560000	ug/kg	5.9 U	5.6 U	6.7 U		6.2 U	6.1 U	6.5 U	6 U	6.6 U		6.8 U			
n-Butylbenzene	39000000	ug/kg	2.9 UJ	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 UJ		3.4 U			
n-Propylbenzene	34000000	ug/kg	2.9 UJ	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 UJ		3.4 U			
o-Xylene	6900000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Styrene	63000000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Tetrachloroethene	220000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Toluene	50000000	ug/kg	5.9 U	5.6 U	6.7 U		6.2 U	6.1 U	6.5 U	6 U	6.6 U		6.8 U			
Trans-1,2-Dichloroethene	1500000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Trans-1,3-Dichloropropene	17000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Trichloroethene	9100	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Trichlorofluoromethane	7900000	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			
Vinyl chloride	600	ug/kg	2.9 U	2.8 U	3.4 U		3.1 U	3 U	3.2 U	3 U	3.3 U		3.4 U			

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

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TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10
			Date	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019
1,1,1,2-Tetrachloroethane	19000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U
1,1,1-Trichloroethane	87000000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
1,1,2,2-Tetrachloroethane	5600	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
1,1,2-Trichloroethane	11000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U
1,1-Dichloroethane	33000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
1,1-Dichloroethene	2400000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
1,2,3-Trichlorobenzene	490000	ug/kg	5.6 UJ	5.8 U	6.4 UJ	6 U	5.8 UJ	7 UJ
1,2,3-Trichloropropane	50	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
1,2,4-Trichlorobenzene	220000	ug/kg	5.6 UJ	5.8 U	6.4 UJ	6 U	5.8 UJ	7 UJ
1,2,4-Trimethylbenzene	620000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
1,2-Dibromo-3-chloropropane	54	ug/kg	5.6 UJ	5.8 U	6.4 UJ	6 U	5.8 UJ	7 UJ
1,2-Dibromoethane	340	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U
1,2-Dichlorobenzene	19000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
1,2-Dichloroethane	4300	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
1,2-Dichloropropane	9400	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
1,3,5-Trimethylbenzene	7800000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
1,3-Dichloropropane	16000000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U
1,4-Dichlorobenzene	24000	ug/kg	1.1 UJ	1.2 U	1.3 UJ	1.2 U	1.2 UJ	1.4 UJ
2-Butanone	280000000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 U	7 U
2-chlorotoluene	16000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
2-Hexanone	2100000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 UJ	7 U
4-Chlorotoluene	16000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
4-methyl-2-pentanone	5300000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 UJ	7 U
Acetone	61000000	ug/kg	11 U	12 U	13 U	12 U	12 U	14 U
Benzene	11000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Bromobenzene	3000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
Bromochloromethane	1600000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Bromodichloromethane	2700	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Bromoform	620000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
Bromomethane	73000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 U	7 U
Carbon Disulfide	8200000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Carbon Tetrachloride	6100	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Chlorobenzene	2900000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Chloroform	2900	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Chloromethane	1200000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 U	7 U
Cis-1,2-Dichloroethene	1600000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Dibromochloromethane	6800	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 2
DUTRA VOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10
			Date	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019
Dibromomethane	250000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Dichlorodifluoromethane	940000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 U	7 U
Ethylbenzene	54000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Hexachlorobutadiene	62000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
m-,p-Xylene		ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Methyl tert-butyl ether (MTBE)	430000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Methylene chloride	560000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 U	7 U
n-Butylbenzene	39000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
n-Propylbenzene	34000000	ug/kg	2.8 UJ	2.9 U	3.2 UJ	3 U	2.9 UJ	3.5 UJ
o-Xylene	6900000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Styrene	63000000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Tetrachloroethene	220000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 UJ
Toluene	50000000	ug/kg	5.6 U	5.8 U	6.4 U	6 U	5.8 UJ	7 U
Trans-1,2-Dichloroethene	1500000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Trans-1,3-Dichloropropene	17000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 UJ	3.5 U
Trichloroethene	9100	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Trichlorofluoromethane	7900000	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U
Vinyl chloride	600	ug/kg	2.8 U	2.9 U	3.2 U	3 U	2.9 U	3.5 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

X: Rejected due to significant QC issues

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

	Location Id	DUT A1	DUT A1	DUT A1	DUT A2	DUT A2	DUT A2	DUT A3	DUT A3	DUT A3	
	Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
	Sample Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	
Chemical	PAH Resample Date	N/A	N/A	N/A	N/A	N/A	06/23/20	N/A	N/A	06/23/20	
Chemical	CC	Units									
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)											
2-Methylnaphthalene	2300000	ug/kg	180 U	200 U	210 U	190 U	190 U	219 U	200 U	210 U	278 U
Acenaphthene	34000000	ug/kg	180 U	200 U	210 U	190 U	190 U	65.6 U	200 U	210 U	83.3 U
Anthracene	170000000	ug/kg	180 U	200 U	210 U	190 U	190 U	65.6 U	200 U	210 U	83.3 U
Benzo(k)fluoranthene	1300	ug/kg	180 U	200 U	230 J	190 U	190 U	65.6 U	200 U	210 U	83.3 U
Benzo[a]anthracene	1300	ug/kg	180 U	200 U	210 J	190 U	190 U	65.6 U	200 U	210 U	50 J
Benzo[a]pyrene	330	ug/kg	180 U	130 J	790	190 U	190 U	40 J	200 U	210 U	142 J
Benzo[b]fluoranthene	1300	ug/kg	180 U	200 U	830	190 U	190 U	48 J	200 U	210 U	167 J
Chrysene	150000	ug/kg	180 U	200 U	460	190 U	190 U	65.6 U	200 U	210 U	69 J
Dibenz(a,h)anthracene	1100	ug/kg	180 U	200 U	210 U	190 U	190 U	65.6 U	200 U	210 U	83.3 U
Fluoranthene	23000000	ug/kg	180 U	130 J	650	190 U	190 U	65.6 U	200 U	210 U	150 J
Fluorene	23000000	ug/kg	180 U	200 U	210 U	190 U	190 U	65.6 U	200 U	210 U	83.3 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	180 U	160 J	930	190 U	190 U	68 J	200 U	210 U	235
Naphthalene	75000	ug/kg	180 U	200 U	210 U	190 U	190 U	219 U	200 U	210 U	278 U
Pyrene	17000000	ug/kg	180 U	190 J	1000	190 U	150 J	67 J	200 U	210 U	222

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	Location Id	DUT A1			DUT A2			DUT A3			
		Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	
Sample Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	
PAH Resample Date	N/A	N/A	N/A	N/A	N/A	N/A	06/23/20	N/A	N/A	06/23/20	
CC	Units										
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2,4,6-Trichlorophenol	440000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2,4-Dichlorophenol	1800000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2,4-Dimethylphenol	12000000	ug/kg	360 U	390 U	420 U	390 U	370 U	3700 U	400 U	420 U	2000 U
2,4-Dinitrophenol	1200000	ug/kg	360 U	390 U	420 U	390 U	370 U	3700 U	400 U	420 U	2000 U
2,4-Dinitrotoluene	16000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2,6-Dinitrotoluene	610000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2-Chloronaphthalene	63000000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2-Chlorophenol	3900000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
2-Nitroaniline	6100000	ug/kg	360 U	390 U	420 U	390 U	370 U	3700 U	400 U	420 U	2000 U
3,3'-Dichlorobenzidine	11000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
4-Chloroaniline	24000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
4-Nitroaniline	240000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Benzoic acid	240000000	ug/kg	710 U	770 U	830 U	770 U	740 U	7400 U	800 U	820 U	3900 U
Benzyl alcohol	6100000	ug/kg	400 U	430 U	460 U	430 U	410 U	4100 U	440 U	460 U	2200 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
bis(2-chloroethyl)ether	2100	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Dibenzofuran	780000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Diethyl phthalate	49000000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Di-n-butyl phthalate	61000000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Hexachlorobenzene	3000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Hexachlorobutadiene	62000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Hexachloroethane	120000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Isophorone	5100000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Nitrobenzene	48000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
N-Nitrosodiphenylamine	990000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Pentachlorophenol	8900	ug/kg	180 U	64 J	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Phenanthrene	1300	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U
Phenol	180000000	ug/kg	180 U	200 U	210 U	190 U	190 U	1900 U	200 U	210 U	990 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2	DUT B2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	
PAH Resample Date	N/A	06/23/20	06/23/20	N/A	06/16/20	N/A	N/A	06/17/20	06/17/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	180 U	210 U	236 U	190 U	229 U	2100 U	180 U	287 U
Acenaphthene	34000000	ug/kg	180 U	62.9 U	70.8 U	190 U	68.8 U	2100 U	180 U	86 U
Anthracene	170000000	ug/kg	180 U	62.9 U	70.8 U	190 U	68.8 U	2100 U	180 U	86 U
Benzo(k)fluoranthene	1300	ug/kg	180 U	62.9 U	65 J	190 U	68.8 U	2100 U	180 U	86 U
Benzo[a]anthracene	1300	ug/kg	180 U	62.9 U	66 J	190 U	68.8 U	2100 U	180 U	86 U
Benzo[a]pyrene	330	ug/kg	180 U	62.9 U	192	190 U	51 J	2100 U	180 U	86 U
Benzo[b]fluoranthene	1300	ug/kg	180 U	62.9 U	231	190 U	49 J	2100 U	180 U	86 U
Chrysene	150000	ug/kg	180 U	62.9 U	94 J	190 U	68.8 U	2100 U	180 U	86 U
Dibenz(a,h)anthracene	1100	ug/kg	180 U	62.9 U	70.8 U	190 U	68.8 U	2100 U	180 U	86 U
Fluoranthene	23000000	ug/kg	180 U	62.9 U	222	190 U	62 J	2100 U	180 U	86 U
Fluorene	23000000	ug/kg	180 U	62.9 U	70.8 U	190 U	68.8 U	2100 U	180 U	86 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	180 U	62.9 U	315	190 U	49 J	2100 U	180 U	86 U
Naphthalene	75000	ug/kg	180 U	210 U	236 U	190 U	229 U	2100 U	180 U	287 U
Pyrene	17000000	ug/kg	180 U	62.9 U	319	190 U	76 J	2100 U	180 U	86 U
										65 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	Location Id	DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2	DUT B2		
		Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019		
PAH Resample Date	N/A	06/23/20	06/23/20	N/A	06/16/20	N/A	N/A	N/A	06/17/20	06/17/20		
CC	Units											
NON-PAH SVOCs												
2,4,5-Trichlorophenol	61000000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2,4,6-Trichlorophenol	440000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2,4-Dichlorophenol	1800000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2,4-Dimethylphenol	12000000	ug/kg	360 U	4100 U	4300 U	370 U	2000 U	4300 U	360 U	1900 U	2000 U	
2,4-Dinitrophenol	1200000	ug/kg	360 U	4100 U	4300 U	370 U	2000 U	4300 U	360 U	1900 U	2000 U	
2,4-Dinitrotoluene	16000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2,6-Dinitrotoluene	610000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2-Chloronaphthalene	63000000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2-Chlorophenol	3900000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
2-Nitroaniline	6100000	ug/kg	360 U	4100 U	4300 U	370 U	2000 U	4300 U	360 U	1900 U	2000 U	
3,3'-Dichlorobenzidine	11000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
4-Chloroaniline	24000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
4-Nitroaniline	240000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Benzoic acid	240000000	ug/kg	710 U	8100 U	8600 U	740 U	3900 U	8500 U	710 U	3700 U	4000 U	
Benzyl alcohol	6100000	ug/kg	400 U	4500 U	4800 U	410 U	2200 U	4700 U	400 U	2100 U	2200 U	
bis(2-Chloroethoxy)methane	1800000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
bis(2-chloroethyl)ether	2100	ug/kg	180 U	2000 U	2200 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Dibenzofuran	780000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Diethyl phthalate	49000000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Di-n-butyl phthalate	61000000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Hexachlorobenzene	3000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Hexachlorobutadiene	62000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Hexachloroethane	120000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Isophorone	5100000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Nitrobenzene	48000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
N-Nitrosodiphenylamine	990000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Pentachlorophenol	8900	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Phenanthrene	1300	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	
Phenol	180000000	ug/kg	180 U	2000 U	2200 U	190 U	990 U	2100 U	180 U	940 U	1000 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	DUT B5	DUT B5	DUT B5	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	
PAH Resample Date	N/A	N/A	N/A	N/A	N/A	06/18/20	N/A	N/A	06/18/20		
Chemical	CC	Units									
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)											
2-Methylnaphthalene	2300000	ug/kg	190 U	170 U	180 U	170 U	180 U	268 UJ	170 U	180 U	250 U
Acenaphthene	34000000	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 UJ	170 U	180 U	75.1 U
Anthracene	170000000	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 UJ	170 U	180 U	75.1 U
Benzo(k)fluoranthene	1300	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 U	170 U	180 U	75.1 U
Benzo[a]anthracene	1300	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 U	170 U	180 U	76 J
Benzo[a]pyrene	330	ug/kg	190 U	170 U	180 U	170 U	180 U	72 J	170 U	180 U	206
Benzo[b]fluoranthene	1300	ug/kg	190 U	170 U	180 U	170 U	180 U	88 J	170 U	180 U	241
Chrysene	150000	ug/kg	190 U	170 U	180 U	170 U	180 U	88 J	170 U	180 U	176
Dibenz(a,h)anthracene	1100	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 U	170 U	180 U	75.1 U
Fluoranthene	23000000	ug/kg	190 U	170 U	180 U	170 U	180 U	138 J	170 U	180 U	275
Fluorene	23000000	ug/kg	190 U	170 U	180 U	170 U	180 U	80.5 UJ	170 U	180 U	75.1 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	140 J	170 U	130 J	170 U	180 U	79 J	170 U	180 U	231
Naphthalene	75000	ug/kg	190 U	170 U	180 U	170 U	180 U	184 J	170 U	180 U	250 U
Pyrene	17000000	ug/kg	130 J	170 U	110 J	170 U	180 U	119 J	170 U	180 U	298

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	Location Id	DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	DUT B5	DUT B5	DUT B5	
		Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
Sample Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	
PAH Resample Date	N/A	N/A	N/A	N/A	N/A	N/A	06/18/20	N/A	N/A	06/18/20	
CC	Units										
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2,4,6-Trichlorophenol	440000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2,4-Dichlorophenol	1800000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2,4-Dimethylphenol	12000000	ug/kg	380 U	350 U	360 U	340 U	350 U	3900 U	340 U	360 U	3800 U
2,4-Dinitrophenol	1200000	ug/kg	1900 U	1700 U	1800 U	1700 U	1700 U	7900 U	340 U	1800 U	3800 U
2,4-Dinitrotoluene	16000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2,6-Dinitrotoluene	610000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2-Chloronaphthalene	63000000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2-Chlorophenol	3900000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
2-Nitroaniline	6100000	ug/kg	380 U	350 U	360 U	340 U	350 U	3900 U	340 U	360 U	3800 U
3,3'-Dichlorobenzidine	11000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
4-Chloroaniline	24000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
4-Nitroaniline	240000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Benzoic acid	240000000	ug/kg	750 U	690 U	710 U	680 U	690 U	7800 U	670 U	710 U	7400 U
Benzyl alcohol	6100000	ug/kg	410 U	380 U	400 U	380 U	380 U	4300 U	370 U	400 U	4100 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
bis(2-chloroethyl)ether	2100	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Dibenzofuran	780000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Diethyl phthalate	49000000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Di-n-butyl phthalate	61000000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Hexachlorobenzene	3000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Hexachlorobutadiene	62000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Hexachloroethane	120000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Isophorone	5100000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Nitrobenzene	48000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
N-Nitrosodiphenylamine	990000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Pentachlorophenol	8900	ug/kg	940 U	870 U	900 U	860 U	880 U	3900 U	170 U	900 U	1900 U
Phenanthrene	1300	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U
Phenol	180000000	ug/kg	190 U	170 U	180 U	170 U	180 U	2000 U	170 U	180 U	1900 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT C1	DUT C1	DUT C1	DUT C2	DUT C2	DUT C2	DUT C3	DUT C3	DUT C3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/19/2019	7/19/2019	7/19/2019	
PAH Resample Date	N/A	06/16/20	N/A	N/A	N/A	N/A	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	180 U	226 U	4300 U	180 U	190 U	288 U	222 U	270 U
Acenaphthene	34000000	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	86.3 U	66.7 U	81.1 U
Anthracene	170000000	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	86.3 U	66.7 U	81.1 U
Benzo(k)fluoranthene	1300	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	86.3 U	66.7 U	81.1 U
Benzo[a]anthracene	1300	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	55 J	66.7 U	81.1 U
Benzo[a]pyrene	330	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	148 J	66.7 U	81.1 U
Benzo[b]fluoranthene	1300	ug/kg	180 U	38 J	4300 U	180 U	190 U	201	66.7 U	81.1 U
Chrysene	150000	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	112 J	66.7 U	81.1 U
Dibenz(a,h)anthracene	1100	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	86.3 U	66.7 U	81.1 U
Fluoranthene	23000000	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	193	66.7 U	81.1 U
Fluorene	23000000	ug/kg	180 U	67.8 U	4300 U	180 U	190 U	86.3 U	66.7 U	81.1 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	180 U	67.8 U	4300 U	130 J	120 J	161 J	66.7 U	81.1 U
Naphthalene	75000	ug/kg	180 U	226 U	4300 U	180 U	190 U	288 U	222 U	270 U
Pyrene	17000000	ug/kg	180 U	67 J	4300 U	130 J	190 U	247	66.7 U	81.1 U
										283 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT C1	DUT C1	DUT C1	DUT C2	DUT C2	DUT C2	DUT C3	DUT C3	DUT C3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/19/2019	7/19/2019	7/19/2019	
PAH Resample Date	N/A	06/16/20	N/A	N/A	N/A	N/A	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
NON-PAH SVOCs										
2,4,5-Trichlorophenol	61000000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2,4,6-Trichlorophenol	440000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2,4-Dichlorophenol	1800000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2,4-Dimethylphenol	12000000	ug/kg	350 U	3600 U	8500 U	370 U	370 U	3800 U	1700 U	1800 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	7300 U	21000 U	1800 U	1900 U	19000 U	3500 U	3500 U
2,4-Dinitrotoluene	16000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2,6-Dinitrotoluene	610000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2-Chloronaphthalene	63000000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2-Chlorophenol	3900000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
2-Nitroaniline	6100000	ug/kg	350 U	3600 U	8500 U	370 U	370 U	3800 U	1700 U	1800 U
3,3'-Dichlorobenzidine	11000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
4-Chloroaniline	24000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
4-Nitroaniline	240000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Benzoic acid	240000000	ug/kg	700 U	7200 U	17000 U	730 U	740 U	7500 U	3500 U	3500 U
Benzyl alcohol	6100000	ug/kg	390 U	4000 U	9400 U	410 U	410 U	4200 U	1900 U	2000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
bis(2-chloroethyl)ether	2100	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Dibenzofuran	780000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Diethyl phthalate	49000000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Di-n-butyl phthalate	61000000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Hexachlorobenzene	3000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Hexachlorobutadiene	62000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Hexachloroethane	120000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Isophorone	5100000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Nitrobenzene	48000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
N-Nitrosodiphenylamine	990000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Pentachlorophenol	8900	ug/kg	880 U	3600 U	11000 U	920 U	930 U	9500 U	880 U	890 U
Phenanthrene	1300	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U
Phenol	180000000	ug/kg	180 U	1800 U	4300 U	180 U	190 U	1900 U	880 U	890 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	
PAH Resample Date	06/18/20	06/18/20	06/18/20	N/A	06/24/20	N/A	06/16/20	N/A	06/16/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	213 U	216 U	261 U	180 U	209 U	1900 U	223 UJ	180 UJ
Acenaphthene	34000000	ug/kg	63.8 U	64.7 U	78.3 U	180 U	62.6 U	1900 U	66.8 UJ	180 UJ
Anthracene	170000000	ug/kg	63.8 U	64.7 U	78.3 U	180 U	62.6 U	1900 U	66.8 UJ	180 UJ
Benzo(k)fluoranthene	1300	ug/kg	63.8 U	64.7 U	57 J	180 U	62.6 U	1900 U	66.8 U	180 UJ
Benzo[a]anthracene	1300	ug/kg	63.8 U	64.7 U	89 J	180 U	62.6 U	1900 U	66.8 U	180 UJ
Benzo[a]pyrene	330	ug/kg	63.8 U	64.7 U	260	180 U	62.6 U	1900 U	66.8 U	180 UJ
Benzo[b]fluoranthene	1300	ug/kg	63.8 U	38 J	299	180 U	62.6 U	1900 U	66.8 U	180 UJ
Chrysene	150000	ug/kg	63.8 U	64.7 U	148 J	180 U	62.6 U	1900 U	66.8 U	180 UJ
Dibenz(a,h)anthracene	1100	ug/kg	63.8 U	64.7 U	78.3 U	180 U	62.6 U	1900 U	66.8 U	180 UJ
Fluoranthene	23000000	ug/kg	63.8 U	64.7 U	295	180 U	62.6 U	1900 U	66.8 U	180 UJ
Fluorene	23000000	ug/kg	63.8 U	64.7 U	78.3 U	180 U	62.6 U	1900 U	66.8 UJ	180 UJ
Indeno[1,2,3-cd]pyrene	1300	ug/kg	63.8 U	64.7 U	283	180 U	62.6 U	1900 U	66.8 U	180 UJ
Naphthalene	75000	ug/kg	213 U	216 U	261 U	180 U	209 U	1900 U	223 UJ	180 UJ
Pyrene	17000000	ug/kg	49 J	51 J	401	180 U	62.6 U	1900 U	66.8 U	180 UJ
										451

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019		
PAH Resample Date	06/18/20	06/18/20	06/18/20	N/A	06/24/20	N/A	06/16/20	N/A	06/16/20		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 UJ	1900 U	910 U	180 U	3700 U
2,4,6-Trichlorophenol	440000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 UJ	1900 U	910 U	180 U	3700 U
2,4-Dichlorophenol	1800000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 U	3700 U
2,4-Dimethylphenol	12000000	ug/kg	3900 U	4000 U	3900 U	360 U	20000 U	3700 U	1800 U	350 U	7500 U
2,4-Dinitrophenol	1200000	ug/kg	7900 U	8000 U	7800 U	1800 U	40000 UJ	7400 U	3600 U	1800 UJ	7500 U
2,4-Dinitrotoluene	16000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
2,6-Dinitrotoluene	610000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
2-Chloronaphthalene	63000000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
2-Chlorophenol	3900000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 U	3700 U
2-Nitroaniline	6100000	ug/kg	3900 U	4000 U	3900 U	360 U	20000 U	3700 U	1800 U	350 UJ	7500 U
3,3'-Dichlorobenzidine	11000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
4-Chloroaniline	24000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
4-Nitroaniline	240000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Benzoic acid	240000000	ug/kg	7800 U	7900 U	7700 U	700 U	40000 U	7300 U	3600 U	700 U	15000 U
Benzyl alcohol	6100000	ug/kg	4400 U	4400 U	4300 U	390 U	22000 U	4100 U	2000 U	390 UJ	8200 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
bis(2-chloroethyl)ether	2100	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Dibenzofuran	780000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Diethyl phthalate	49000000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Di-n-butyl phthalate	61000000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Hexachlorobenzene	3000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Hexachlorobutadiene	62000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Hexachloroethane	120000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Isophorone	5100000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Nitrobenzene	48000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
N-Nitrosodiphenylamine	990000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Pentachlorophenol	8900	ug/kg	2000 U	2000 U	2000 U	180 U	10000 UJ	1900 U	910 U	180 U	3700 U
Phenanthrene	1300	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 UJ	3700 U
Phenol	180000000	ug/kg	2000 U	2000 U	2000 U	180 U	10000 U	1900 U	910 U	180 U	3700 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019	7/22/2019	
PAH Resample Date	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	06/18/20	06/18/20
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	215 U
Acenaphthene	34000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Anthracene	170000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Benzo(k)fluoranthene	1300	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Benzo[a]anthracene	1300	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Benzo[a]pyrene	330	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Benzo[b]fluoranthene	1300	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Chrysene	150000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Dibenz(a,h)anthracene	1100	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Fluoranthene	23000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Fluorene	23000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U
Naphthalene	75000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	215 U
Pyrene	17000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	64.4 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019	7/22/2019		
PAH Resample Date	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	06/18/20	06/18/20	
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	170 U	170 U	11000 UJ	170 U	180 U	10000 UJ	190 U	3900 U	4000 U
2,4,6-Trichlorophenol	440000	ug/kg	170 U	170 U	11000 UJ	170 U	180 U	10000 UJ	190 U	3900 U	4000 U
2,4-Dichlorophenol	1800000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
2,4-Dimethylphenol	12000000	ug/kg	340 U	350 U	21000 U	350 U	360 U	20000 U	370 U	7700 U	8100 U
2,4-Dinitrophenol	1200000	ug/kg	1700 U	1700 U	42000 U	1700 U	1800 U	41000 UJ	370 U	7700 U	8100 U
2,4-Dinitrotoluene	16000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
2,6-Dinitrotoluene	610000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
2-Chloronaphthalene	63000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
2-Chlorophenol	3900000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
2-Nitroaniline	6100000	ug/kg	340 U	350 U	21000 U	350 U	360 U	20000 U	370 U	7700 U	8100 U
3,3'-Dichlorobenzidine	11000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
4-Chloroaniline	24000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
4-Nitroaniline	240000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Benzoic acid	240000000	ug/kg	670 U	690 U	42000 U	690 U	710 U	41000 U	740 U	15000 U	16000 U
Benzyl alcohol	6100000	ug/kg	370 U	380 U	23000 U	380 U	400 U	23000 U	410 U	8500 U	8900 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
bis(2-chloroethyl)ether	2100	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Dibenzofuran	780000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Diethyl phthalate	49000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Di-n-butyl phthalate	61000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Hexachlorobenzene	3000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Hexachlorobutadiene	62000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Hexachloroethane	120000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Isophorone	5100000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Nitrobenzene	48000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
N-Nitrosodiphenylamine	990000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Pentachlorophenol	8900	ug/kg	170 U	170 U	11000 UJ	170 U	180 U	10000 UJ	190 U	3900 U	4000 U
Phenanthrene	1300	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U
Phenol	180000000	ug/kg	170 U	170 U	11000 U	170 U	180 U	10000 U	190 U	3900 U	4000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT D5	DUT D5	DUT D5	DUT E1	DUT E1	DUT E1	DUT E2	DUT E2	DUT E2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	
PAH Resample Date	06/18/20	N/A	06/18/20	06/16/20	06/16/20	N/A	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	306 U	9000 U	261 U	216 U	205 U	4300 U	231 U	226 U
Acenaphthene	34000000	ug/kg	91.7 U	9000 U	78.3 U	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Anthracene	170000000	ug/kg	91.7 U	9000 U	78.3 U	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Benzo(k)fluoranthene	1300	ug/kg	91.7 U	9000 U	141 J	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Benzo[a]anthracene	1300	ug/kg	91.7 U	9000 U	153 J	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Benzo[a]pyrene	330	ug/kg	91.7 U	9000 U	513	80 J	61.6 U	4300 U	69.3 U	50 J
Benzo[b]fluoranthene	1300	ug/kg	91.7 U	9000 U	596	101 J	38 J	4300 U	69.3 U	57 J
Chrysene	150000	ug/kg	91.7 U	9000 U	288	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Dibenz(a,h)anthracene	1100	ug/kg	91.7 U	9000 U	65 J	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Fluoranthene	23000000	ug/kg	91.7 U	9000 U	549	96 J	61.6 U	4300 U	69.3 U	64 J
Fluorene	23000000	ug/kg	91.7 U	9000 U	78.3 U	64.8 U	61.6 U	4300 U	69.3 U	67.7 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	91.7 U	9000 U	599	74 J	61.6 U	4300 U	69.3 U	46 J
Naphthalene	75000	ug/kg	144 J	9000 U	261 U	216 U	205 U	4300 U	231 U	226 U
Pyrene	17000000	ug/kg	91.7 U	9000 U	718	136	55 J	4300 U	69.3 U	89 J
										321 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT D5	DUT D5	DUT D5	DUT E1	DUT E1	DUT E1	DUT E2	DUT E2	DUT E2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	
PAH Resample Date	06/18/20	N/A	06/18/20	06/16/20	06/16/20	N/A	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
NON-PAH SVOCs										
2,4,5-Trichlorophenol	61000000	ug/kg	900 U	9000 UJ	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2,4,6-Trichlorophenol	440000	ug/kg	900 U	9000 UJ	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2,4-Dichlorophenol	1800000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2,4-Dimethylphenol	12000000	ug/kg	1800 U	18000 U	3700 U	1800 U	8200 U	8700 U	1900 U	4000 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	18000 UJ	3700 U	1800 U	8200 U	8700 U	1900 U	4000 U
2,4-Dinitrotoluene	16000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2,6-Dinitrotoluene	610000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2-Chloronaphthalene	63000000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2-Chlorophenol	3900000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
2-Nitroaniline	6100000	ug/kg	1800 U	18000 U	3700 U	1800 U	8200 U	8700 U	1900 U	4000 U
3,3'-Dichlorobenzidine	11000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
4-Chloroaniline	24000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
4-Nitroaniline	240000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Benzoic acid	240000000	ug/kg	3500 U	36000 U	7400 U	3500 U	16000 U	17000 U	3800 U	8000 U
Benzyl alcohol	6100000	ug/kg	2000 U	20000 U	4100 U	2000 U	9000 U	9500 U	2100 U	4400 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
bis(2-chloroethyl)ether	2100	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Dibenzofuran	780000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Diethyl phthalate	49000000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Di-n-butyl phthalate	61000000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Hexachlorobenzene	3000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Hexachlorobutadiene	62000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Hexachloroethane	120000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Isophorone	5100000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Nitrobenzene	48000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
N-Nitrosodiphenylamine	990000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Pentachlorophenol	8900	ug/kg	900 U	9000 UJ	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Phenanthrene	1300	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U
Phenol	180000000	ug/kg	900 U	9000 U	1900 U	890 U	4100 U	4300 U	970 U	2000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT E3	DUT E3		DUT E3	DUT E4	DUT E4		DUT E5	DUT E5	DUT E5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
Sample Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
PAH Resample Date	06/17/20	06/17/20	06/17/20	06/18/20	06/18/20	06/18/20	N/A	06/23/20	06/23/20	06/23/20	06/23/20
Chemical	CC	Units									
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)											
2-Methylnaphthalene	2300000	ug/kg	227 U	232 UJ	269 UJ	212 U	212 U	249 U	180 U	211 U	260 U
Acenaphthene	34000000	ug/kg	68.1 U	69.5 UJ	80.6 UJ	63.5 U	63.7 U	74.8 U	180 U	63.3 U	78.1 U
Anthracene	170000000	ug/kg	68.1 U	69.5 UJ	80.6 UJ	63.5 U	63.7 U	74.8 U	180 U	63.3 U	78.1 U
Benzo(k)fluoranthene	1300	ug/kg	68.1 U	69.5 UJ	76 J	63.5 U	63.7 U	84 J	180 U	63.3 U	64.3 J
Benzo[a]anthracene	1300	ug/kg	68.1 U	69.5 UJ	108 J	63.5 U	63.7 U	98 J	180 U	53 J	67.4 J
Benzo[a]pyrene	330	ug/kg	68.1 U	69.5 UJ	324 J	63.5 U	63.7 U	305	180 U	73 J	220
Benzo[b]fluoranthene	1300	ug/kg	68.1 U	69.5 UJ	421 J	63.5 U	63.7 U	353	180 U	80 J	280
Chrysene	150000	ug/kg	68.1 U	69.5 UJ	237 J	63.5 U	63.7 U	162	180 U	50 J	116 J
Dibenz(a,h)anthracene	1100	ug/kg	68.1 U	69.5 UJ	80.6 UJ	63.5 U	63.7 U	46 J	180 U	63.3 U	78.1 U
Fluoranthene	23000000	ug/kg	68.1 U	69.5 UJ	558 J	63.5 U	63.7 U	330	180 U	167	261
Fluorene	23000000	ug/kg	68.1 U	69.5 UJ	80.6 UJ	63.5 U	63.7 U	74.8 U	180 U	63.3 U	78.1 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	68.1 U	69.5 UJ	292 J	63.5 U	63.7 U	353	180 U	86 J	390
Naphthalene	75000	ug/kg	227 U	232 UJ	269 UJ	212 U	212 U	249 U	180 U	211 U	260 U
Pyrene	17000000	ug/kg	68.1 U	69.5 UJ	544 J	63.5 U	63.7 U	456	180 U	218	78.1 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location Id			DUT E3	DUT E3	DUT E3	DUT E4	DUT E4	DUT E4	DUT E5	DUT E5	DUT E5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15
Sample Date	7/22/2019		7/22/2019	7/22/2019		7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
PAH Resample Date	06/17/20		06/17/20	06/17/20		06/17/20	06/18/20	06/18/20	06/18/20	N/A	06/23/20		06/23/20	06/23/20
NON-PAH SVOCs														
2,4,5-Trichlorophenol	61000000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 UJ	3800 U	180 U	1900 U	3900 U			
2,4,6-Trichlorophenol	440000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 UJ	3800 U	180 U	1900 U	3900 U			
2,4-Dichlorophenol	1800000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
2,4-Dimethylphenol	12000000	ug/kg	1900 U	8100 U	7600 U	2100 U	7900 U	7600 U	370 U	3800 U	7700 U			
2,4-Dinitrophenol	1200000	ug/kg	1900 U	8100 U	7600 U	2100 U	7900 UJ	7600 U	370 U	3800 U	7700 U			
2,4-Dinitrotoluene	16000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
2,6-Dinitrotoluene	610000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
2-Chloronaphthalene	63000000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
2-Chlorophenol	3900000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
2-Nitroaniline	6100000	ug/kg	1900 U	8100 U	7600 U	2100 U	7900 U	7600 U	370 U	3800 U	7700 U			
3,3'-Dichlorobenzidine	11000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
4-Chloroaniline	24000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
4-Nitroaniline	240000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Benzoic acid	240000000	ug/kg	3700 U	16000 U	15000 U	4200 U	16000 U	15000 U	730 U	7400 U	15000 U			
Benzyl alcohol	6100000	ug/kg	2000 U	9000 U	8400 U	2300 U	8700 U	8400 U	400 U	4100 U	8500 U			
bis(2-Chloroethoxy)methane	1800000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
bis(2-chloroethyl)ether	2100	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
bis(2-Ethylhexyl) phthalate	350000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Dibenzofuran	780000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Diethyl phthalate	49000000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Di-n-butyl phthalate	61000000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Hexachlorobenzene	3000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Hexachlorobutadiene	62000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Hexachloroethane	120000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Isophorone	5100000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Nitrobenzene	48000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
N-Nitrosodiphenylamine	990000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Pentachlorophenol	8900	ug/kg	930 U	4100 U	3800 U	1100 U	3900 UJ	3800 U	180 U	1900 U	3900 U			
Phenanthrene	1300	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			
Phenol	180000000	ug/kg	930 U	4100 U	3800 U	1100 U	3900 U	3800 U	180 U	1900 U	3900 U			

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT F1	DUT F1	DUT F1	DUT F2	DUT F2	DUT F2	DUT F3	DUT F3	DUT F3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	
PAH Resample Date	06/16/20	06/16/20	06/16/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	214 U	290 U	267 U	268 U	216 U	259 U	213 U	278 U
Acenaphthene	34000000	ug/kg	64.3 U	87.1 U	80 U	80.3 U	64.8 U	77.8 U	63.9 U	83.4 U
Anthracene	170000000	ug/kg	64.3 U	87.1 U	80 U	80.3 U	64.8 U	77.8 U	63.9 U	83.4 U
Benzo(k)fluoranthene	1300	ug/kg	64.3 U	87.1 U	83 J	80.3 U	64.8 U	153 J	63.9 U	83.4 U
Benzo[a]anthracene	1300	ug/kg	64.3 U	87.1 U	104 J	80.3 U	64.8 U	192	63.9 U	83.4 U
Benzo[a]pyrene	330	ug/kg	64.3 U	87.1 U	336	80.3 U	64.8 U	584	63.9 U	83.4 U
Benzo[b]fluoranthene	1300	ug/kg	64.3 U	87.1 U	357	80.3 U	64.8 U	786	63.9 U	83.4 U
Chrysene	150000	ug/kg	64.3 U	87.1 U	155 J	80.3 U	64.8 U	359	63.9 U	83.4 U
Dibenz(a,h)anthracene	1100	ug/kg	64.3 U	87.1 U	80 U	80.3 U	64.8 U	74 J	63.9 U	83.4 U
Fluoranthene	23000000	ug/kg	64.3 U	87.1 U	384	80.3 U	64.8 U	988	63.9 U	83.4 U
Fluorene	23000000	ug/kg	64.3 U	87.1 U	80 U	80.3 U	64.8 U	77.8 U	63.9 U	83.4 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	64.3 U	87.1 U	387	80.3 U	64.8 U	700	63.9 U	83.4 U
Naphthalene	75000	ug/kg	214 U	290 U	267 U	268 U	216 U	259 U	213 U	278 U
Pyrene	17000000	ug/kg	64.3 U	87.1 U	536	80.3 U	64.8 U	1,040	63.9 U	83.4 U
										408

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT F1	DUT F1	DUT F1	DUT F2	DUT F2	DUT F2	DUT F3	DUT F3	DUT F3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10
Sample Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
PAH Resample Date	06/16/20	06/16/20	06/16/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20	06/17/20
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2,4,6-Trichlorophenol	440000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2,4-Dichlorophenol	1800000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2,4-Dimethylphenol	12000000	ug/kg	1700 U	1800 U	7400 U	1800 U	8000 U	7700 U	1800 U	3800 U	7700 U
2,4-Dinitrophenol	1200000	ug/kg	1700 U	1800 U	7400 U	1800 U	8000 U	7700 U	1800 U	3800 U	7700 U
2,4-Dinitrotoluene	16000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2,6-Dinitrotoluene	610000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2-Chloronaphthalene	63000000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2-Chlorophenol	3900000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
2-Nitroaniline	6100000	ug/kg	1700 U	1800 U	7400 U	1800 U	8000 U	7700 U	1800 U	3800 U	7700 U
3,3'-Dichlorobenzidine	11000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
4-Chloroaniline	24000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
4-Nitroaniline	240000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Benzoic acid	240000000	ug/kg	3400 U	3600 U	15000 U	3600 U	16000 U	15000 U	3500 U	7500 U	15000 U
Benzyl alcohol	6100000	ug/kg	1900 U	2000 U	8200 U	2000 U	8800 U	8500 U	2000 U	4200 U	8500 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
bis(2-chloroethyl)ether	2100	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Dibenzofuran	780000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Diethyl phthalate	49000000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Di-n-butyl phthalate	61000000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Hexachlorobenzene	3000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Hexachlorobutadiene	62000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Hexachloroethane	120000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Isophorone	5100000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Nitrobenzene	48000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
N-Nitrosodiphenylamine	990000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Pentachlorophenol	8900	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Phenanthrene	1300	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U
Phenol	180000000	ug/kg	870 U	910 U	3700 U	920 U	4000 U	3900 U	890 U	1900 U	3900 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT F4	DUT F4	DUT F4	DUT F5	DUT F5	DUT F5	DUT G1	DUT G1	DUT G1
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	
PAH Resample Date	06/18/20	06/18/20	06/18/20	N/A	06/23/20	06/23/20	06/16/20	06/16/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	280 U	226 U	240 U	170 U	211 U	305 U	212 U	214 U
Acenaphthene	34000000	ug/kg	83.9 U	67.7 U	72 U	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Anthracene	170000000	ug/kg	83.9 U	67.7 U	72 U	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Benzo(k)fluoranthene	1300	ug/kg	83.9 U	67.7 U	90 J	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Benzo[a]anthracene	1300	ug/kg	83.9 U	67.7 U	120 J	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Benzo[a]pyrene	330	ug/kg	83.9 U	55 J	329	170 U	63.4 U	62 J	63.6 U	64.3 U
Benzo[b]fluoranthene	1300	ug/kg	83.9 U	70 J	327	170 U	63.4 U	72 J	63.6 U	64.3 U
Chrysene	150000	ug/kg	83.9 U	67.7 U	157	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Dibenz(a,h)anthracene	1100	ug/kg	83.9 U	67.7 U	43 J	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Fluoranthene	23000000	ug/kg	83.9 U	57 J	432	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Fluorene	23000000	ug/kg	83.9 U	67.7 U	72 U	170 U	63.4 U	91.5 U	63.6 U	64.3 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	83.9 U	61 J	329	170 U	63.4 U	100 J	63.6 U	64.3 U
Naphthalene	75000	ug/kg	197 J	96 J	240 U	170 U	211 U	305 U	212 U	214 U
Pyrene	17000000	ug/kg	83.9 U	78 J	567	170 U	63.4 U	88 J	43 J	64.3 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT F4	DUT F4	DUT F4	DUT F5	DUT F5	DUT F5	DUT G1	DUT G1	DUT G1	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019		
PAH Resample Date	06/18/20	06/18/20	06/18/20	N/A	06/23/20	06/23/20	06/16/20	06/16/20	N/A		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2,4,6-Trichlorophenol	440000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2,4-Dichlorophenol	1800000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2,4-Dimethylphenol	12000000	ug/kg	1800 UJ	3500 U	3800 U	350 U	1700 U	3500 U	1800 U	3900 U	7500 U
2,4-Dinitrophenol	1200000	ug/kg	1800 UJ	3500 U	3800 U	350 U	1700 U	3500 U	1800 U	3900 U	7500 U
2,4-Dinitrotoluene	16000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2,6-Dinitrotoluene	610000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2-Chloronaphthalene	63000000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2-Chlorophenol	3900000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
2-Nitroaniline	6100000	ug/kg	1800 UJ	3500 U	3800 U	350 U	1700 U	3500 U	1800 U	3900 U	7500 U
3,3'-Dichlorobenzidine	11000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
4-Chloroaniline	24000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
4-Nitroaniline	240000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Benzoic acid	240000000	ug/kg	3600 UJ	7000 U	7500 U	690 U	3500 U	7000 U	3500 U	7800 U	15000 U
Benzyl alcohol	6100000	ug/kg	2000 UJ	3900 U	4200 U	380 U	1900 U	3900 U	2000 U	4300 U	8300 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
bis(2-chloroethyl)ether	2100	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Dibenzofuran	780000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Diethyl phthalate	49000000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Di-n-butyl phthalate	61000000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Hexachlorobenzene	3000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Hexachlorobutadiene	62000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Hexachloroethane	120000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Isophorone	5100000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Nitrobenzene	48000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
N-Nitrosodiphenylamine	990000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Pentachlorophenol	8900	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Phenanthrene	1300	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U
Phenol	180000000	ug/kg	900 UJ	1800 U	1900 U	170 U	880 U	1800 U	890 U	2000 U	3800 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	DUT G4	DUT G4	DUT G4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	
PAH Resample Date	06/24/20	06/17/20	06/17/20	06/17/20	06/24/20	N/A	06/18/20	06/24/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	210 U	247 UJ	258 U	209 U	277 U	4400 U	266 U	216 U
Acenaphthene	34000000	ug/kg	63 U	74 UJ	77.3 U	62.8 U	83 U	4400 U	79.8 U	64.7 U
Anthracene	170000000	ug/kg	63 U	74 UJ	77.3 U	62.8 U	83 U	4400 U	79.8 U	64.7 U
Benzo(k)fluoranthene	1300	ug/kg	63 U	74 UJ	148 J	62.8 U	83 U	4400 U	79.8 U	64.7 U
Benzo[a]anthracene	1300	ug/kg	63 U	74 UJ	177	62.8 U	83 U	4400 U	79.8 U	64.7 U
Benzo[a]pyrene	330	ug/kg	63 U	74 UJ	567	62.8 U	83 U	4400 U	79.8 U	64.7 U
Benzo[b]fluoranthene	1300	ug/kg	63 U	46 J	736	62.8 U	83 U	4400 U	79.8 U	64.7 U
Chrysene	150000	ug/kg	63 U	74 UJ	340	62.8 U	83 U	4400 U	79.8 U	64.7 U
Dibenz(a,h)anthracene	1100	ug/kg	63 U	74 UJ	64 J	62.8 U	83 U	4400 U	79.8 U	64.7 U
Fluoranthene	23000000	ug/kg	63 U	74 UJ	624	62.8 U	83 U	4400 U	79.8 U	64.7 U
Fluorene	23000000	ug/kg	63 U	74 UJ	77.3 U	62.8 U	83 U	4400 U	79.8 U	64.7 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	63 U	74 UJ	607	62.8 U	83 U	4400 U	79.8 U	64.7 U
Naphthalene	75000	ug/kg	210 U	247 UJ	258 U	209 U	277 U	4400 U	266 U	216 U
Pyrene	17000000	ug/kg	63 U	50 J	838	62.8 U	83 U	4400 U	79.8 U	64.7 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	DUT G4	DUT G4	DUT G4	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019		
PAH Resample Date	06/24/20	06/17/20	06/17/20	06/17/20	06/24/20	N/A	06/18/20	06/24/20	N/A		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2,4,6-Trichlorophenol	440000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2,4-Dichlorophenol	1800000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2,4-Dimethylphenol	12000000	ug/kg	1800 U	1800 U	8700 U	3500 U	20000 U	8700 U	2300 U	8400 U	21000 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	1800 U	8700 U	3500 U	20000 U	8700 U	2300 U	8400 U	21000 U
2,4-Dinitrotoluene	16000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2,6-Dinitrotoluene	610000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2-Chloronaphthalene	63000000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2-Chlorophenol	3900000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
2-Nitroaniline	6100000	ug/kg	1800 U	1800 U	8700 U	3500 U	20000 U	8700 U	2300 U	8400 U	21000 U
3,3'-Dichlorobenzidine	11000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
4-Chloroaniline	24000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
4-Nitroaniline	240000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Benzoic acid	240000000	ug/kg	3600 U	3500 U	17000 U	6900 U	39000 U	17000 U	4600 U	17000 U	41000 U
Benzyl alcohol	6100000	ug/kg	2000 U	2000 U	9600 U	3800 U	22000 U	9600 U	2500 U	9300 U	23000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
bis(2-chloroethyl)ether	2100	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Dibenzofuran	780000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Diethyl phthalate	49000000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Di-n-butyl phthalate	61000000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Hexachlorobenzene	3000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Hexachlorobutadiene	62000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Hexachloroethane	120000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Isophorone	5100000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Nitrobenzene	48000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
N-Nitrosodiphenylamine	990000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Pentachlorophenol	8900	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Phenanthrene	1300	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U
Phenol	180000000	ug/kg	920 U	900 U	4300 U	1700 U	9900 U	4400 U	1200 U	4200 U	10000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT G5	DUT G5	DUT G5	DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	
PAH Resample Date	N/A	06/23/20	N/A	06/24/20	06/24/20	N/A	06/17/20	06/24/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	180 U	217 U	4300 U	212 U	242 U	4400 U	208 U	229 U
Acenaphthene	34000000	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Anthracene	170000000	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Benzo(k)fluoranthene	1300	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Benzo[a]anthracene	1300	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Benzo[a]pyrene	330	ug/kg	180 U	65 U	4300 U	63.6 U	46 J	4400 U	62.5 U	82 J
Benzo[b]fluoranthene	1300	ug/kg	180 U	44 J	4300 U	63.6 U	72 J	4400 U	62.5 U	112 J
Chrysene	150000	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Dibenz(a,h)anthracene	1100	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Fluoranthene	23000000	ug/kg	180 U	65 U	4300 U	63.6 U	68 J	4400 U	62.5 U	70 J
Fluorene	23000000	ug/kg	180 U	65 U	4300 U	63.6 U	72.6 U	4400 U	62.5 U	68.7 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	180 U	59 J	4300 U	63.6 U	85 J	4400 U	62.5 U	142
Naphthalene	75000	ug/kg	180 U	217 U	4300 UJ	212 U	242 U	4400 U	208 U	229 U
Pyrene	17000000	ug/kg	180 U	52 J	4300 U	63.6 U	98 J	4400 U	62.5 U	114 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT G5	DUT G5	DUT G5	DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019		
PAH Resample Date	N/A	06/23/20	N/A	06/24/20	06/24/20	N/A	06/17/20	06/24/20	N/A		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2,4,6-Trichlorophenol	440000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2,4-Dichlorophenol	1800000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2,4-Dimethylphenol	12000000	ug/kg	350 U	7500 U	8600 U	7900 U	21000 U	8700 U	1700 U	8600 U	20000 U
2,4-Dinitrophenol	1200000	ug/kg	350 U	7500 U	8600 UJ	7900 U	21000 U	8700 U	1700 U	8600 U	20000 U
2,4-Dinitrotoluene	16000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2,6-Dinitrotoluene	610000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2-Chloronaphthalene	63000000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2-Chlorophenol	3900000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
2-Nitroaniline	6100000	ug/kg	350 U	7500 U	8600 U	7900 U	21000 U	8700 U	1700 U	8600 U	20000 U
3,3'-Dichlorobenzidine	11000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
4-Chloroaniline	24000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
4-Nitroaniline	240000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Benzoic acid	240000000	ug/kg	700 U	15000 U	17000 U	16000 U	42000 U	17000 U	3400 U	17000 U	41000 U
Benzyl alcohol	6100000	ug/kg	390 U	8200 U	9500 UJ	8700 U	23000 UJ	9600 U	1900 U	9500 U	23000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
bis(2-chloroethyl)ether	2100	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Dibenzofuran	780000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Diethyl phthalate	49000000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Di-n-butyl phthalate	61000000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Hexachlorobenzene	3000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Hexachlorobutadiene	62000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Hexachloroethane	120000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
Isophorone	5100000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
Nitrobenzene	48000	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 UJ	4400 U	860 U	4300 U	10000 U
N-Nitrosodiphenylamine	990000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Pentachlorophenol	8900	ug/kg	180 U	3700 U	4300 UJ	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Phenanthrene	1300	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U
Phenol	180000000	ug/kg	180 U	3700 U	4300 U	4000 U	11000 U	4400 U	860 U	4300 U	10000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT H3	DUT H3	DUT H3	DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
PAH Resample Date	06/18/20	06/18/20	N/A	06/18/20	06/18/20	06/18/20	06/23/20	06/23/20	06/23/20	
CHEMICAL										
CC	Units									
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	273 UJ	312 UJ	11000 U	207 U	337 UJ	262 U	206 U	322 U
Acenaphthene	34000000	ug/kg	81.8 UJ	93.6 UJ	11000 U	62 U	101 UJ	78.7 U	61.7 U	96.5 U
Anthracene	170000000	ug/kg	81.8 UJ	93.6 UJ	11000 U	62 U	101 UJ	78.7 U	61.7 U	96.5 U
Benzo(k)fluoranthene	1300	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	78.7 U	61.7 U	96.5 U
Benzo[a]anthracene	1300	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	65 J	61.7 U	96.5 U
Benzo[a]pyrene	330	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	190	61.7 U	96.5 U
Benzo[b]fluoranthene	1300	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	202	61.7 U	96.5 U
Chrysene	150000	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	139 J	61.7 U	96.5 U
Dibenz(a,h)anthracene	1100	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	78.7 U	61.7 U	96.5 U
Fluoranthene	23000000	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	215	61.7 U	96.5 U
Fluorene	23000000	ug/kg	81.8 UJ	93.6 UJ	11000 U	62 U	101 UJ	78.7 U	61.7 U	96.5 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	206	61.7 U	96.5 U
Naphthalene	75000	ug/kg	273 UJ	312 UJ	11000 U	207 U	337 UJ	262 U	206 U	322 U
Pyrene	17000000	ug/kg	81.8 U	93.6 UJ	11000 U	62 U	101 UJ	291	61.7 U	96.5 U
										61.9 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT H3	DUT H3	DUT H3	DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
PAH Resample Date	06/18/20	06/18/20	N/A	06/18/20	06/18/20	06/18/20	06/23/20	06/23/20	06/23/20	
Chemical	CC	Units								
NON-PAH SVOCs										
2,4,5-Trichlorophenol	61000000	ug/kg	2300 U	4100 U	11000 UJ	3700 U	870 U	1900 U	870 U	1800 U
2,4,6-Trichlorophenol	440000	ug/kg	2300 U	4100 U	11000 UJ	3700 U	870 U	1900 U	870 U	1800 U
2,4-Dichlorophenol	1800000	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
2,4-Dimethylphenol	12000000	ug/kg	4500 U	8300 U	22000 U	7300 U	1700 U	3700 U	1700 U	3500 U
2,4-Dinitrophenol	1200000	ug/kg	4500 U	8300 U	22000 UJ	7300 U	1700 U	3700 U	1700 U	3500 U
2,4-Dinitrotoluene	16000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
2,6-Dinitrotoluene	610000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
2-Chloronaphthalene	63000000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
2-Chlorophenol	3900000	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
2-Nitroaniline	6100000	ug/kg	4500 UJ	8300 U	22000 U	7300 U	1700 U	3700 U	1700 U	3500 U
3,3'-Dichlorobenzidine	11000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
4-Chloroaniline	24000	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
4-Nitroaniline	240000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Benzoic acid	240000000	ug/kg	9000 U	16000 U	43000 U	15000 U	3400 U	7400 U	3400 U	7000 U
Benzyl alcohol	6100000	ug/kg	5000 UJ	9100 UJ	24000 U	8100 U	1900 U	4100 U	1900 U	3900 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
bis(2-chloroethyl)ether	2100	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Dibenzofuran	780000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Diethyl phthalate	49000000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Di-n-butyl phthalate	61000000	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Hexachlorobenzene	3000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Hexachlorobutadiene	62000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Hexachloroethane	120000	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Isophorone	5100000	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Nitrobenzene	48000	ug/kg	2300 UJ	4100 UJ	11000 U	3700 U	870 U	1900 U	870 U	1800 U
N-Nitrosodiphenylamine	990000	ug/kg	2300 UJ	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Pentachlorophenol	8900	ug/kg	2300 U	4100 U	11000 UJ	3700 U	870 U	1900 U	870 U	1800 U
Phenanthrene	1300	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U
Phenol	180000000	ug/kg	2300 U	4100 U	11000 U	3700 U	870 U	1900 U	870 U	1800 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT I1	DUT I1	DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
PAH Resample Date	06/16/20	06/24/20	N/A	06/17/20	06/24/20	N/A	06/18/20	06/24/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	211 UJ	234 U	9900 U	209 U	244 UJ	10000 U	208 U	239 UJ
Acenaphthene	34000000	ug/kg	63.2 UJ	70.2 U	9900 U	62.7 U	73.3 UJ	10000 U	62.3 U	71.6 UJ
Anthracene	170000000	ug/kg	63.2 UJ	70.2 U	9900 U	62.7 U	73.3 UJ	10000 UJ	62.3 U	71.6 UJ
Benzo(k)fluoranthene	1300	ug/kg	63.2 U	67 J	9900 U	62.7 U	73.3 UJ	10000 UJ	62.3 U	67 J
Benzo[a]anthracene	1300	ug/kg	63.2 U	64 J	9900 U	62.7 U	73.3 UJ	10000 UJ	62.3 U	64 J
Benzo[a]pyrene	330	ug/kg	63.2 U	175	9900 U	62.7 U	78 J	10000 UJ	62.3 U	207 J
Benzo[b]fluoranthene	1300	ug/kg	63.2 U	289	9900 U	62.7 U	108 J	10000 UJ	62.3 U	310 J
Chrysene	150000	ug/kg	63.2 U	149	9900 U	62.7 U	73.3 UJ	10000 UJ	62.3 U	108 J
Dibenz(a,h)anthracene	1100	ug/kg	63.2 U	70.2 U	9900 U	62.7 U	73.3 UJ	10000 UJ	62.3 U	71.6 UJ
Fluoranthene	23000000	ug/kg	63.2 U	229	9900 U	62.7 U	98 J	10000 UJ	62.3 U	213 J
Fluorene	23000000	ug/kg	63.2 UJ	70.2 U	9900 U	62.7 U	73.3 UJ	10000 U	62.3 U	71.6 UJ
Indeno[1,2,3-cd]pyrene	1300	ug/kg	63.2 U	313	9900 U	62.7 U	119 J	10000 UJ	62.3 U	371 J
Naphthalene	75000	ug/kg	211 UJ	234 U	9900 U	209 U	244 UJ	10000 U	208 U	239 UJ
Pyrene	17000000	ug/kg	63.2 U	315	9900 U	62.7 U	138 J	10000 UJ	62.3 U	330 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location Id		DUT I1	DUT I1	DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	0-5	
Sample Date	7/25/2019		7/25/2019	7/25/2019		7/25/2019		7/25/2019	7/25/2019		7/25/2019	7/25/2019		
PAH Resample Date	06/16/20		06/24/20	N/A		06/17/20		06/24/20	N/A		06/18/20	06/24/20		
NON-PAH SVOCs														
2,4,5-Trichlorophenol	61000000	ug/kg	870 U	11000 U	9900 U	860 U	9900 UJ	10000 UJ	3700 U	10000 U	10000 U			
2,4,6-Trichlorophenol	440000	ug/kg	870 U	11000 U	9900 U	860 U	9900 UJ	10000 UJ	3700 U	10000 U	10000 U			
2,4-Dichlorophenol	1800000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
2,4-Dimethylphenol	12000000	ug/kg	1700 U	21000 U	20000 U	1700 U	20000 U	21000 U	7400 U	20000 U	21000 U			
2,4-Dinitrophenol	1200000	ug/kg	1700 U	21000 U	20000 U	1700 U	20000 UJ	21000 UJ	7400 U	20000 U	21000 U			
2,4-Dinitrotoluene	16000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
2,6-Dinitrotoluene	610000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
2-Chloronaphthalene	63000000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
2-Chlorophenol	3900000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
2-Nitroaniline	6100000	ug/kg	1700 U	21000 U	20000 U	1700 U	20000 U	21000 U	7400 U	20000 U	21000 U			
3,3'-Dichlorobenzidine	11000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
4-Chloroaniline	24000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
4-Nitroaniline	240000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Benzoic acid	240000000	ug/kg	3400 U	42000 U	39000 U	3400 U	39000 U	41000 U	15000 U	40000 U	41000 U			
Benzyl alcohol	6100000	ug/kg	1900 U	23000 U	22000 U	1900 U	22000 U	23000 U	8200 U	22000 U	23000 U			
bis(2-Chloroethoxy)methane	1800000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
bis(2-chloroethyl)ether	2100	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
bis(2-Ethylhexyl) phthalate	350000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 UJ	3700 U	10000 U	10000 U			
Dibenzofuran	780000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Diethyl phthalate	49000000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Di-n-butyl phthalate	61000000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 UJ	3700 U	10000 U	10000 U			
Hexachlorobenzene	3000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Hexachlorobutadiene	62000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Hexachloroethane	120000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Isophorone	5100000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Nitrobenzene	48000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
N-Nitrosodiphenylamine	990000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			
Pentachlorophenol	8900	ug/kg	870 U	11000 U	9900 U	860 U	9900 UJ	10000 UJ	3700 U	10000 U	10000 U			
Phenanthrene	1300	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 UJ	3700 U	10000 U	10000 U			
Phenol	180000000	ug/kg	870 U	11000 U	9900 U	860 U	9900 U	10000 U	3700 U	10000 U	10000 U			

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT I4	DUT I4	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	
PAH Resample Date	06/24/20	06/24/20	N/A	06/22/20	06/24/20	N/A	06/17/20	06/17/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	227 U	236 U	9800 U	214 U	229 UJ	9600 U	217 U	234 UJ
Acenaphthene	34000000	ug/kg	68.1 U	70.7 U	9800 U	64.2 U	68.7 UJ	9600 U	65.2 U	70.3 UJ
Anthracene	170000000	ug/kg	68.1 U	70.7 U	9800 U	64.2 U	68.7 UJ	9600 U	65.2 U	70.3 UJ
Benzo(k)fluoranthene	1300	ug/kg	80 J	70 J	9800 U	64.2 U	50 J	9600 U	65.2 U	70.3 U
Benzo[a]anthracene	1300	ug/kg	81 J	65 J	9800 U	64.2 U	51 J	9600 U	65.2 U	70.3 U
Benzo[a]pyrene	330	ug/kg	237	187	9800 U	64.2 U	151 J	9600 U	65.2 U	44 J
Benzo[b]fluoranthene	1300	ug/kg	275	272	9800 U	64.2 U	214 J	9600 U	65.2 U	55 J
Chrysene	150000	ug/kg	115 J	119 J	9800 U	64.2 U	85 J	9600 U	65.2 U	70.3 U
Dibenz(a,h)anthracene	1100	ug/kg	68.1 U	70.7 U	9800 U	64.2 U	68.7 UJ	9600 U	65.2 U	70.3 U
Fluoranthene	23000000	ug/kg	263	223	9800 U	64.2 U	163 J	9600 U	65.2 U	70.3 U
Fluorene	23000000	ug/kg	68.1 U	70.7 U	9800 U	64.2 U	68.7 UJ	9600 U	65.2 U	70.3 UJ
Indeno[1,2,3-cd]pyrene	1300	ug/kg	388	324	9800 U	64.2 U	266 J	9600 U	65.2 U	54 J
Naphthalene	75000	ug/kg	227 U	236 U	9800 U	214 U	229 UJ	9600 U	217 U	234 UJ
Pyrene	17000000	ug/kg	412	319	9800 U	64.2 U	251	9600 U	65.2 U	69 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	Location Id	DUT I4	DUT I4	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1	
		Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15	
Sample Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	
PAH Resample Date	06/24/20	06/24/20	N/A	06/22/20	06/24/20	N/A	06/17/20	06/17/20	N/A	06/17/20	
CC	Units										
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 UJ	1800 U	1800 U	10000 U
2,4,6-Trichlorophenol	440000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 UJ	1800 U	1800 U	10000 U
2,4-Dichlorophenol	1800000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
2,4-Dimethylphenol	12000000	ug/kg	7000 U	8000 U	20000 U	1800 U	19000 U	19000 U	3600 U	3700 U	20000 U
2,4-Dinitrophenol	1200000	ug/kg	7000 U	8000 U	20000 U	1800 U	19000 U	19000 UJ	3600 U	3700 U	20000 U
2,4-Dinitrotoluene	16000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
2,6-Dinitrotoluene	610000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
2-Chloronaphthalene	63000000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
2-Chlorophenol	3900000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
2-Nitroaniline	6100000	ug/kg	7000 U	8000 U	20000 U	1800 U	19000 U	19000 U	3600 U	3700 U	20000 U
3,3'-Dichlorobenzidine	11000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
4-Chloroaniline	24000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
4-Nitroaniline	240000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Benzoic acid	240000000	ug/kg	14000 U	16000 U	39000 U	3600 U	38000 U	38000 U	7200 U	7300 U	40000 U
Benzyl alcohol	6100000	ug/kg	7700 U	8800 U	22000 U	2000 U	21000 U	21000 U	4000 U	4100 U	22000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
bis(2-chloroethyl)ether	2100	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Dibenzofuran	780000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Diethyl phthalate	49000000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Di-n-butyl phthalate	61000000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Hexachlorobenzene	3000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Hexachlorobutadiene	62000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Hexachloroethane	120000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Isophorone	5100000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Nitrobenzene	48000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
N-Nitrosodiphenylamine	990000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Pentachlorophenol	8900	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 UJ	1800 U	1800 U	10000 U
Phenanthrene	1300	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U
Phenol	180000000	ug/kg	3500 U	4000 U	9800 U	910 U	9500 U	9600 U	1800 U	1800 U	10000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT J2	DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019	
PAH Resample Date	06/17/20	06/17/20	N/A	06/18/20	06/18/20	N/A	06/18/20	06/18/20	06/18/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	213 U	261 U	10000 U	276 U	262 UJ	10000 U	206 U	250 UJ
Acenaphthene	34000000	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	78.7 UJ	10000 U	61.8 U	75.1 UJ
Anthracene	170000000	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	78.7 UJ	10000 U	61.8 U	75.1 UJ
Benzo(k)fluoranthene	1300	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	57 J	10000 U	61.8 U	75.1 U
Benzo[a]anthracene	1300	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	66 J	10000 U	61.8 U	75.1 U
Benzo[a]pyrene	330	ug/kg	63.9 U	120 J	10000 U	82.7 U	252	10000 U	61.8 U	106 J
Benzo[b]fluoranthene	1300	ug/kg	63.9 U	127 J	10000 U	82.7 U	274	10000 U	61.8 U	133 J
Chrysene	150000	ug/kg	63.9 U	72 J	10000 U	82.7 U	190	10000 U	61.8 U	93 J
Dibenz(a,h)anthracene	1100	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	78.7 U	10000 U	61.8 U	75.1 U
Fluoranthene	23000000	ug/kg	63.9 U	155 J	10000 U	82.7 U	257	10000 U	61.8 U	110 J
Fluorene	23000000	ug/kg	63.9 U	78.2 U	10000 U	82.7 U	78.7 UJ	10000 U	61.8 U	75.1 UJ
Indeno[1,2,3-cd]pyrene	1300	ug/kg	63.9 U	133 J	10000 U	82.7 U	252	10000 U	61.8 U	117 J
Naphthalene	75000	ug/kg	213 U	261 U	10000 U	276 U	262 UJ	10000 U	206 U	250 UJ
Pyrene	17000000	ug/kg	63.9 U	197	10000 U	82.7 U	327	10000 U	61.8 U	124 J
										250

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	Location Id	DUT J2	DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4	
		Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	10-15	
Sample Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	
PAH Resample Date	06/17/20	06/17/20	N/A	06/18/20	06/18/20	N/A	06/18/20	06/18/20	06/18/20	06/18/20	
CC	Units										
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2,4,6-Trichlorophenol	440000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2,4-Dichlorophenol	1800000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2,4-Dimethylphenol	12000000	ug/kg	1800 U	7100 U	20000 U	3600 U	3500 U	20000 U	7400 U	3900 U	3600 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	7100 U	20000 U	3600 U	3500 U	20000 U	7400 U	3900 U	3600 U
2,4-Dinitrotoluene	16000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2,6-Dinitrotoluene	610000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2-Chloronaphthalene	63000000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2-Chlorophenol	3900000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
2-Nitroaniline	6100000	ug/kg	1800 U	7100 U	20000 U	3600 U	3500 U	20000 U	7400 U	3900 U	3600 U
3,3'-Dichlorobenzidine	11000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
4-Chloroaniline	24000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
4-Nitroaniline	240000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Benzoic acid	240000000	ug/kg	3500 U	14000 U	40000 U	7100 U	6900 U	40000 U	15000 U	7700 U	7100 U
Benzyl alcohol	6100000	ug/kg	2000 U	7800 U	22000 U	3900 U	3900 U	22000 U	8200 U	4300 U	4000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
bis(2-chloroethyl)ether	2100	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Dibenzofuran	780000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Diethyl phthalate	49000000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Di-n-butyl phthalate	61000000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Hexachlorobenzene	3000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Hexachlorobutadiene	62000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Hexachloroethane	120000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Isophorone	5100000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Nitrobenzene	48000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
N-Nitrosodiphenylamine	990000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Pentachlorophenol	8900	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Phenanthrene	1300	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U
Phenol	180000000	ug/kg	890 U	3600 U	10000 U	1800 U	1800 U	10000 U	3700 U	1900 U	1800 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT J5	DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	DUT K2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	
PAH Resample Date	06/22/20	06/24/20	N/A	06/17/20	06/17/20	N/A	06/17/20	06/17/20	06/17/20	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	209 U	215 U	1800 U	213 U	239 U	4100 U	207 U	270 U
Acenaphthene	34000000	ug/kg	62.8 U	64.5 U	1800 U	64 U	71.8 U	4100 U	62.1 U	80.9 U
Anthracene	170000000	ug/kg	62.8 U	64.5 U	1800 U	64 U	71.8 U	4100 U	62.1 U	80.9 U
Benzo(k)fluoranthene	1300	ug/kg	62.8 U	63 J	1800 U	64 U	71.8 U	4100 U	62.1 U	112 J
Benzo[a]anthracene	1300	ug/kg	62.8 U	66 J	1800 U	64 U	73 J	4100 U	62.1 U	183
Benzo[a]pyrene	330	ug/kg	62.8 U	197	1800 U	64 U	212	4100 U	62.1 U	645
Benzo[b]fluoranthene	1300	ug/kg	62.8 U	289	1800 U	64 U	211	4100 U	62.1 U	605
Chrysene	150000	ug/kg	62.8 U	131	1800 U	64 U	93 J	4100 U	62.1 U	288
Dibenz(a,h)anthracene	1100	ug/kg	62.8 U	64.5 U	1800 U	64 U	71.8 U	4100 U	62.1 U	65 J
Fluoranthene	23000000	ug/kg	62.8 U	210	1800 U	64 U	235	4100 U	62.1 U	795
Fluorene	23000000	ug/kg	62.8 U	64.5 U	1800 U	64 U	71.8 U	4100 U	62.1 U	80.9 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	62.8 U	359	1800 U	64 U	223	4100 U	62.1 U	636
Naphthalene	75000	ug/kg	209 U	215 U	1800 U	213 U	239 U	4100 U	207 U	257 U
Pyrene	17000000	ug/kg	62.8 U	342	1800 U	64 U	341	4100 U	62.1 U	1,040

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT J5	DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	DUT K2	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019		
PAH Resample Date	06/22/20	06/24/20	N/A	06/17/20	06/17/20	N/A	06/17/20	06/17/20	06/17/20		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2,4,6-Trichlorophenol	440000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2,4-Dichlorophenol	1800000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2,4-Dimethylphenol	12000000	ug/kg	1800 U	7400 U	3700 U	1900 U	4000 U	8100 U	1700 U	8500 U	7900 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	7400 U	3700 U	1900 U	4000 U	8100 U	1700 U	8500 U	7900 U
2,4-Dinitrotoluene	16000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2,6-Dinitrotoluene	610000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2-Chloronaphthalene	63000000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2-Chlorophenol	3900000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
2-Nitroaniline	6100000	ug/kg	1800 U	7400 U	3700 U	1900 U	4000 U	8100 U	1700 U	8500 U	7900 U
3,3'-Dichlorobenzidine	11000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
4-Chloroaniline	24000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
4-Nitroaniline	240000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Benzoic acid	240000000	ug/kg	3600 U	15000 U	7300 U	3700 U	8000 U	16000 U	3400 U	17000 U	16000 U
Benzyl alcohol	6100000	ug/kg	2000 U	8200 U	4000 U	2000 U	4400 U	9000 U	1900 U	9300 U	8700 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
bis(2-chloroethyl)ether	2100	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Dibenzofuran	780000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Diethyl phthalate	49000000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Di-n-butyl phthalate	61000000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Hexachlorobenzene	3000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Hexachlorobutadiene	62000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Hexachloroethane	120000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Isophorone	5100000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Nitrobenzene	48000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
N-Nitrosodiphenylamine	990000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Pentachlorophenol	8900	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Phenanthrene	1300	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U
Phenol	180000000	ug/kg	920 U	3700 U	1800 U	930 U	2000 U	4100 U	870 U	4200 U	4000 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT K5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	
PAH Resample Date	06/18/20	06/24/20	06/18/20	06/18/20	06/18/20	N/A	N/A	06/24/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	237 UJ	244 UJ	328 U	208 UJ	233 UJ	4000 U	170 U	239 U
Acenaphthene	34000000	ug/kg	71.2 UJ	73.1 UJ	98.5 U	62.4 UJ	69.8 UJ	4000 U	170 U	71.6 U
Anthracene	170000000	ug/kg	71.2 UJ	73.1 UJ	98.5 U	62.4 UJ	69.8 UJ	4000 U	170 U	71.6 U
Benzo(k)fluoranthene	1300	ug/kg	71.2 U	183 J	98.5 U	62.4 U	69.8 UJ	4000 U	170 U	138 J
Benzo[a]anthracene	1300	ug/kg	84 J	145 J	98.5 U	62.4 U	69.8 UJ	4000 U	170 U	142 J
Benzo[a]pyrene	330	ug/kg	307	471 J	61 J	62.4 U	86 J	4000 U	170 U	425
Benzo[b]fluoranthene	1300	ug/kg	292	745 J	98.5 U	62.4 U	95 J	4000 U	170 U	536
Chrysene	150000	ug/kg	197	272 J	98.5 U	62.4 U	68 J	4000 U	170 U	259
Dibenz(a,h)anthracene	1100	ug/kg	71.2 U	47 J	98.5 U	62.4 U	69.8 UJ	4000 U	170 U	71.6 U
Fluoranthene	23000000	ug/kg	376	496 J	98.5 U	62.4 U	74 J	4000 U	170 U	564
Fluorene	23000000	ug/kg	71.2 UJ	73.1 UJ	98.5 U	62.4 UJ	69.8 UJ	4000 U	170 U	71.6 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	296	873 J	98.5 U	62.4 U	88 J	4000 U	170 U	673
Naphthalene	75000	ug/kg	237 UJ	244 UJ	328 U	208 UJ	233 UJ	4000 U	170 U	239 U
Pyrene	17000000	ug/kg	414	801 J	98.5 U	62.4 U	103 J	4000 U	170 U	765

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT K5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	
PAH Resample Date	06/18/20	06/24/20	06/18/20	06/18/20	06/18/20	N/A	N/A	06/24/20	N/A	
Chemical	CC	Units								
NON-PAH SVOCs										
2,4,5-Trichlorophenol	61000000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2,4,6-Trichlorophenol	440000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2,4-Dichlorophenol	1800000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2,4-Dimethylphenol	12000000	ug/kg	1700 U	8000 U	3700 U	1700 U	4300 U	8000 U	340 U	18000 U
2,4-Dinitrophenol	1200000	ug/kg	1700 U	8000 U	3700 U	1700 U	4300 U	8000 U	340 U	18000 U
2,4-Dinitrotoluene	16000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2,6-Dinitrotoluene	610000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2-Chloronaphthalene	63000000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2-Chlorophenol	3900000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
2-Nitroaniline	6100000	ug/kg	1700 U	8000 U	3700 U	1700 U	4300 U	8000 U	340 U	18000 U
3,3'-Dichlorobenzidine	11000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
4-Chloroaniline	24000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
4-Nitroaniline	240000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Benzoic acid	240000000	ug/kg	3400 U	16000 U	7400 U	3500 U	8500 U	16000 U	680 U	37000 U
Benzyl alcohol	6100000	ug/kg	1900 U	8800 U	4100 U	1900 U	4700 U	8900 U	380 U	20000 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
bis(2-chloroethyl)ether	2100	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Dibenzofuran	780000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Diethyl phthalate	49000000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Di-n-butyl phthalate	61000000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Hexachlorobenzene	3000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Hexachlorobutadiene	62000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Hexachloroethane	120000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Isophorone	5100000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Nitrobenzene	48000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
N-Nitrosodiphenylamine	990000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Pentachlorophenol	8900	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Phenanthrene	1300	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U
Phenol	180000000	ug/kg	860 U	4000 U	1900 U	880 U	2100 U	4000 U	170 U	9300 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	DUT L2	DUT L3	DUT L3	DUT L3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	
PAH Resample Date	06/17/20	06/17/20	N/A	06/17/20	06/17/20	N/A	06/18/20	06/24/20	N/A	
Chemical	CC	Units								
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)										
2-Methylnaphthalene	2300000	ug/kg	279 U	228 U	11000 U	215 U	264 U	3800 U	285 U	214 U
Acenaphthene	34000000	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	79.2 U	3800 U	85.6 U	64.3 U
Anthracene	170000000	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	79.2 U	3800 U	85.6 U	64.3 U
Benzo(k)fluoranthene	1300	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	63.1 J	3800 U	85.6 U	64.3 U
Benzo[a]anthracene	1300	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	77.4 J	3800 U	85.6 U	64.3 U
Benzo[a]pyrene	330	ug/kg	126 J	99 J	11000 U	64.5 U	239	3800 U	85.6 U	64.3 U
Benzo[b]fluoranthene	1300	ug/kg	127 J	99 J	11000 U	64.5 U	232	3800 U	85.6 U	64.3 U
Chrysene	150000	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	136 J	3800 U	85.6 U	64.3 U
Dibenz(a,h)anthracene	1100	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	79.2 U	3800 U	85.6 U	64.3 U
Fluoranthene	23000000	ug/kg	145 J	112 J	11000 U	64.5 U	335	3800 U	85.6 U	64.3 U
Fluorene	23000000	ug/kg	83.6 U	68.3 U	11000 U	64.5 U	79.2 U	3800 U	85.6 U	64.3 U
Indeno[1,2,3-cd]pyrene	1300	ug/kg	130 J	107 J	11000 U	64.5 U	253	3800 U	85.6 U	40 J
Naphthalene	75000	ug/kg	279 U	228 U	11000 U	215 U	264 U	3800 U	285 U	214 U
Pyrene	17000000	ug/kg	209	157	11000 U	64.5 U	385	3800 U	85.6 U	45 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	DUT L2	DUT L3	DUT L3	DUT L3	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Sample Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019		
PAH Resample Date	06/17/20	06/17/20	N/A	06/17/20	06/17/20	N/A	06/18/20	06/24/20	N/A		
Chemical	CC	Units									
NON-PAH SVOCs											
2,4,5-Trichlorophenol	61000000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2,4,6-Trichlorophenol	440000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2,4-Dichlorophenol	1800000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2,4-Dimethylphenol	12000000	ug/kg	1900 U	7200 U	22000 U	1800 U	8300 U	7700 U	3800 U	8700 U	8300 U
2,4-Dinitrophenol	1200000	ug/kg	1900 U	7200 U	22000 U	1800 U	8300 U	7700 U	3800 U	8700 U	8300 U
2,4-Dinitrotoluene	16000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2,6-Dinitrotoluene	610000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2-Chloronaphthalene	63000000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2-Chlorophenol	3900000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
2-Nitroaniline	6100000	ug/kg	1900 U	7200 U	22000 U	1800 U	8300 U	7700 U	3800 U	8700 U	8300 U
3,3'-Dichlorobenzidine	11000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
4-Chloroaniline	24000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
4-Nitroaniline	240000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Benzoic acid	240000000	ug/kg	3700 U	14000 U	43000 U	3600 U	16000 U	15000 U	7600 U	17000 U	16000 U
Benzyl alcohol	6100000	ug/kg	2100 U	7900 U	24000 U	2000 U	9100 U	8400 U	4200 U	9600 U	9100 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
bis(2-chloroethyl)ether	2100	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Dibenzofuran	780000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Diethyl phthalate	49000000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Di-n-butyl phthalate	61000000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Hexachlorobenzene	3000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Hexachlorobutadiene	62000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Hexachloroethane	120000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Isophorone	5100000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Nitrobenzene	48000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
N-Nitrosodiphenylamine	990000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Pentachlorophenol	8900	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Phenanthrene	1300	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U
Phenol	180000000	ug/kg	940 U	3600 U	11000 U	910 U	4200 U	3800 U	1900 U	4300 U	4200 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019	7/31/2019	
PAH Resample Date	06/18/20	06/18/20	N/A	N/A	06/22/20	N/A	
Chemical	CC	Units					
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)							
2-Methylnaphthalene	2300000	ug/kg	289 U	310 UJ	4000 U	1800 U	240 UJ
Acenaphthene	34000000	ug/kg	86.8 U	93.1 UJ	4000 U	1800 U	72.1 UJ
Anthracene	170000000	ug/kg	86.8 U	93.1 UJ	4000 U	1800 U	72.1 UJ
Benzo(k)fluoranthene	1300	ug/kg	86.8 U	93.1 U	4000 U	1800 U	145 J
Benzo[a]anthracene	1300	ug/kg	86.8 U	93.1 U	4000 U	1800 U	172 J
Benzo[a]pyrene	330	ug/kg	86.8 U	121 J	4000 U	1800 U	558 J
Benzo[b]fluoranthene	1300	ug/kg	86.8 U	124 J	4000 U	1800 U	587 J
Chrysene	150000	ug/kg	86.8 U	88 J	4000 U	1800 U	233 J
Dibenz(a,h)anthracene	1100	ug/kg	86.8 U	93.1 U	4000 U	1800 U	72 J
Fluoranthene	23000000	ug/kg	86.8 U	102 J	4000 U	1800 U	542 J
Fluorene	23000000	ug/kg	86.8 U	93.1 UJ	4000 U	1800 U	72.1 UJ
Indeno[1,2,3-cd]pyrene	1300	ug/kg	86.8 U	122 J	4000 U	1800 U	586 J
Naphthalene	75000	ug/kg	289 U	310 UJ	4000 U	1800 U	240 UJ
Pyrene	17000000	ug/kg	86.8 U	155 J	4000 U	1800 U	799 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 3
DUTRA SVOC RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location Id		DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	
Sample Date	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019	7/31/2019	
PAH Resample Date	06/18/20	06/18/20	N/A	N/A	06/22/20	N/A	
Chemical	CC	Units					
NON-PAH SVOCs							
2,4,5-Trichlorophenol	61000000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2,4,6-Trichlorophenol	440000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2,4-Dichlorophenol	1800000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2,4-Dimethylphenol	12000000	ug/kg	1800 U	1800 U	8000 U	3700 U	3800 U
2,4-Dinitrophenol	1200000	ug/kg	1800 U	1800 U	8000 U	3700 U	3800 U
2,4-Dinitrotoluene	16000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2,6-Dinitrotoluene	610000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2-Chloronaphthalene	63000000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2-Chlorophenol	3900000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
2-Nitroaniline	6100000	ug/kg	1800 U	1800 U	8000 U	3700 U	3800 U
3,3'-Dichlorobenzidine	11000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
4-Chloroaniline	24000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
4-Nitroaniline	240000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Benzoic acid	2400000000	ug/kg	3600 U	3600 U	16000 U	7300 U	7500 U
Benzyl alcohol	6100000	ug/kg	2000 U	2000 U	8800 U	4000 U	4200 U
bis(2-Chloroethoxy)methane	1800000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
bis(2-chloroethyl)ether	2100	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
bis(2-Ethylhexyl) phthalate	350000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Dibenzofuran	780000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Diethyl phthalate	49000000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Di-n-butyl phthalate	61000000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Hexachlorobenzene	3000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Hexachlorobutadiene	62000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Hexachloroethane	120000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Isophorone	5100000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Nitrobenzene	48000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
N-Nitrosodiphenylamine	990000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Pentachlorophenol	8900	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Phenanthrene	1300	ug/kg	920 U	900 U	4000 U	1800 U	1900 U
Phenol	180000000	ug/kg	920 U	900 U	4000 U	1800 U	1900 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

Bold - LOD exceeds HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT A1	DUT A1	DUT A1	DUT A2	DUT A2	DUT A2	DUT A3	DUT A3	DUT A3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 U	12 U	12 U	11 UJ	11 UJ	12 U	12 U	11 UJ
Arochlor 1221	140	ug/kg	14 U	15 U	16 U	14 U	14 UJ	14 UJ	15 U	15 U
Arochlor 1232	140	ug/kg	6.3 U	7 U	7.5 U	6.5 U	6.6 UJ	6.5 UJ	7 U	7 U
Arochlor 1242	740	ug/kg	5.2 U	5.8 U	6.2 U	5.4 U	5.5 UJ	5.4 UJ	5.9 U	5.8 U
Arochlor 1248	740	ug/kg	8.4 U	9.3 U	10 U	8.7 U	8.8 UJ	8.7 UJ	9.4 U	9.3 U
Arochlor 1254	740	ug/kg	14 U	15 U	16 U	14 U	14 UJ	14 UJ	15 U	15 U
Arochlor 1260	740	ug/kg	10 UJ	12 UJ	12 UJ	11 UJ	11 UJ	11 UJ	12 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	DUT B2	DUT B2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 UJ	12 U	13 U	11 U	12 U	13 U	11 U	11 UJ
Arochlor 1221	140	ug/kg	14 UJ	15 U	17 U	14 U	16 U	17 U	14 U	14 UJ
Arochlor 1232	140	ug/kg	6.2 UJ	7.1 U	7.7 U	6.5 U	7.2 U	7.7 U	6.4 U	6.6 UJ
Arochlor 1242	740	ug/kg	5.2 UJ	5.1 J	33 J	5.5 U	19 J	6.4 U	5.4 U	5.5 UJ
Arochlor 1248	740	ug/kg	8.3 UJ	9.4 U	10 U	8.7 U	9.6 U	10 U	8.6 U	8.8 UJ
Arochlor 1254	740	ug/kg	14 UJ	15 U	17 U	14 U	16 U	17 U	14 U	14 UJ
Arochlor 1260	740	ug/kg	10 UJ	12 U	13 U	11 U	12 U	13 U	11 U	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	DUT B5	DUT B5	DUT B5	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	11 UJ	10 UJ	11 UJ	9.9 UJ	11 UJ	12 UJ	10 UJ	11 UJ	11 UJ
Arochlor 1221	140	ug/kg	14 UJ	13 UJ	14 UJ	13 UJ	14 UJ	16 UJ	13 UJ	14 UJ	15 UJ
Arochlor 1232	140	ug/kg	6.4 UJ	6.1 UJ	6.6 UJ	5.9 UJ	6.4 UJ	7.2 UJ	6.2 UJ	6.3 UJ	6.8 UJ
Arochlor 1242	740	ug/kg	5.3 UJ	5.1 UJ	5.5 UJ	5 UJ	5.3 UJ	6 UJ	5.1 UJ	5.3 UJ	5.7 UJ
Arochlor 1248	740	ug/kg	8.5 UJ	8.2 UJ	8.8 UJ	7.9 UJ	8.5 UJ	9.6 UJ	8.2 UJ	8.5 UJ	9.1 UJ
Arochlor 1254	740	ug/kg	14 UJ	13 UJ	14 UJ	13 UJ	14 UJ	16 UJ	13 UJ	14 UJ	15 UJ
Arochlor 1260	740	ug/kg	11 UJ	10 UJ	11 UJ	9.9 UJ	11 UJ	12 UJ	10 UJ	11 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT C1	DUT C1	DUT C1	DUT C2	DUT C2	DUT C2	DUT C3	DUT C3	DUT C3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/19/2019	7/19/2019	7/19/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 UJ	11 UJ	12 UJ	11 UJ	11 UJ	11 U	11 U	11 U
Arochlor 1221	140	ug/kg	14 UJ	14 UJ	16 UJ	14 UJ	15 UJ	14 UJ	14 U	14 U
Arochlor 1232	140	ug/kg	6.3 UJ	6.4 UJ	7.4 UJ	6.6 UJ	6.7 UJ	6.6 UJ	6.3 U	6.4 U
Arochlor 1242	740	ug/kg	5.2 UJ	5.3 UJ	6.2 UJ	5.5 UJ	5.6 UJ	5.5 UJ	5.3 U	5.3 U
Arochlor 1248	740	ug/kg	8.4 UJ	8.6 UJ	9.8 UJ	8.8 UJ	9 UJ	8.7 UJ	8.4 U	8.5 U
Arochlor 1254	740	ug/kg	14 UJ	14 UJ	16 UJ	14 UJ	15 UJ	14 UJ	14 U	14 U
Arochlor 1260	740	ug/kg	10 UJ	11 UJ	12 UJ	11 UJ	11 UJ	11 UJ	11 U	11 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT C4	DUT C4	DUT C4	DUT C5	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019		
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	11 U	12 U	11 U	10 U	12 U	11 U	11 U	10 U	11 U
Arochlor 1221	140	ug/kg	15 U	15 U	15 U	13 U	15 U	14 U	14 U	13 U	15 U
Arochlor 1232	140	ug/kg	6.8 U	7 U	6.9 U	6.1 U	7 U	6.6 U	6.4 U	6.2 U	6.7 U
Arochlor 1242	740	ug/kg	5.7 U	5.9 U	5.7 U	5 U	5.8 U	5.5 U	5.3 U	5.2 U	5.6 U
Arochlor 1248	740	ug/kg	9.1 U	9.4 U	9.1 U	8.1 U	9.3 U	8.8 U	8.5 U	8.3 U	9 U
Arochlor 1254	740	ug/kg	15 U	15 U	15 U	13 U	15 U	14 U	14 U	13 U	15 U
Arochlor 1260	740	ug/kg	11 U	12 U	11 U	10 U	12 U	11 U	11 U	10 U	11 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT D2	DUT D2	DUT D2	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019	7/22/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	9.9 U	11 U	13 U	10 U	11 U	12 U	11 U	11 UJ
Arochlor 1221	140	ug/kg	13 U	14 U	16 U	13 U	14 U	15 U	14 U	15 UJ
Arochlor 1232	140	ug/kg	5.9 U	6.3 U	7.5 U	6.1 U	6.4 U	7.1 U	6.3 U	6.9 UJ
Arochlor 1242	740	ug/kg	5 U	5.3 U	6.3 U	5.1 U	5.3 U	5.9 U	5.3 U	5.7 UJ
Arochlor 1248	740	ug/kg	7.9 U	8.5 U	10 U	8.1 U	8.5 U	9.5 U	8.4 U	9.2 UJ
Arochlor 1254	740	ug/kg	13 U	14 U	16 U	13 U	14 U	15 U	14 U	15 UJ
Arochlor 1260	740	ug/kg	9.9 U	11 U	13 U	10 U	11 U	12 U	11 U	11 UJ
										12 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT D5	DUT D5	DUT D5	DUT E1	DUT E1	DUT E1	DUT E2	DUT E2	DUT E2	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/22/2019	7/22/2019	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	10 UJ	11 U	11 U	10 U	12 UJ	13 UJ	11 U	12 U	11 U
Arochlor 1221	140	ug/kg	14 UJ	14 U	14 U	13 U	16 UJ	16 UJ	15 U	15 U	14 U
Arochlor 1232	140	ug/kg	6.3 UJ	6.5 U	6.5 U	6.1 U	7.2 UJ	7.6 UJ	6.7 U	6.9 U	6.5 U
Arochlor 1242	740	ug/kg	5.2 UJ	5.4 U	5.4 U	5.1 U	6 UJ	6.3 UJ	5.6 U	5.8 U	5.4 U
Arochlor 1248	740	ug/kg	8.4 UJ	8.6 U	8.6 U	8.1 U	9.7 UJ	10 UJ	9 U	9.3 U	8.7 U
Arochlor 1254	740	ug/kg	14 UJ	14 U	14 U	13 U	16 UJ	16 UJ	31 U	15 U	14 U
Arochlor 1260	740	ug/kg	10 UJ	11 U	11 U	10 UJ	12 UJ	13 UJ	11 UJ	12 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT E3	DUT E3	DUT E3	DUT E4	DUT E4	DUT E4	DUT E5	DUT E5	DUT E5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 U	12 UJ	11 UJ	12 U	12 U	11 U	11 U	11 U
Arochlor 1221	140	ug/kg	14 U	15 UJ	15 UJ	16 U	15 U	14 UJ	14 U	15 U
Arochlor 1232	140	ug/kg	6.2 U	6.9 UJ	6.9 UJ	7.2 U	7 U	6.6 UJ	6.4 U	6.8 U
Arochlor 1242	740	ug/kg	5.2 U	5.8 UJ	5.7 UJ	6 U	5.8 U	5.5 UJ	5.3 U	5.7 U
Arochlor 1248	740	ug/kg	8.3 U	9.3 UJ	9.2 UJ	9.6 U	9.3 U	8.8 UJ	8.5 U	9 U
Arochlor 1254	740	ug/kg	14 U	15 UJ	15 UJ	16 U	15 U	14 UJ	14 U	15 U
Arochlor 1260	740	ug/kg	10 U	12 UJ	11 UJ	12 U	12 U	11 UJ	11 U	11 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT F1	DUT F1	DUT F1	DUT F2	DUT F2	DUT F2	DUT F3	DUT F3	DUT F3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	11 U	11 U	11 U	10 U	11 U	57 U	11 U	11 U
Arochlor 1221	140	ug/kg	14 U	14 U	14 U	13 U	15 U	74 U	14 U	15 U
Arochlor 1232	140	ug/kg	6.3 U	6.5 U	6.4 U	6.2 U	6.8 U	34 U	6.3 U	6.9 U
Arochlor 1242	740	ug/kg	5.3 U	5.4 U	5.4 U	5.2 U	5.7 U	28 U	5.3 U	5.7 U
Arochlor 1248	740	ug/kg	8.4 U	8.6 U	8.6 U	8.2 U	9.1 U	45 U	8.5 U	9.2 U
Arochlor 1254	740	ug/kg	14 U	14 U	14 U	13 U	15 U	74 U	14 U	15 U
Arochlor 1260	740	ug/kg	11 U	11 U	11 U	10 U	11 U	57 U	11 U	11 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT F4	DUT F4	DUT F4	DUT F5	DUT F5	DUT F5	DUT G1	DUT G1	DUT G1
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 U	10 U	11 U	10 U	11 U	11 U	12 U	11 U
Arochlor 1221	140	ug/kg	14 U	13 U	14 U	13 U	13 U	14 U	14 U	14 U
Arochlor 1232	140	ug/kg	6.3 U	6 U	6.5 U	6 U	6.2 U	6.4 U	6.5 U	6.9 U
Arochlor 1242	740	ug/kg	5.2 U	5 U	5.4 U	5 U	5.2 U	5.4 U	5.4 U	5.6 U
Arochlor 1248	740	ug/kg	8.4 U	8 U	8.6 U	8 U	8.3 U	8.6 U	8.7 U	9.3 U
Arochlor 1254	740	ug/kg	14 U	13 U	14 U	13 U	13 U	14 U	14 U	14 U
Arochlor 1260	740	ug/kg	10 U	10 U	11 U	10 U	10 U	11 U	12 U	11 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	DUT G4	DUT G4	DUT G4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 UJ	10 UJ	13 UJ	10 UJ	12 UJ	13 UJ	13 UJ	12 UJ
Arochlor 1221	140	ug/kg	14 UJ	13 UJ	16 UJ	13 UJ	16 UJ	17 UJ	17 UJ	16 UJ
Arochlor 1232	140	ug/kg	6.3 UJ	6.1 UJ	7.5 UJ	6.1 UJ	7.2 UJ	7.7 UJ	7.9 UJ	7.4 UJ
Arochlor 1242	740	ug/kg	5.2 UJ	5.1 UJ	6.3 UJ	5.1 UJ	6 UJ	6.4 UJ	6.6 UJ	6.2 UJ
Arochlor 1248	740	ug/kg	8.4 UJ	8.1 UJ	10 UJ	8.2 UJ	9.6 UJ	10 UJ	11 UJ	9.9 UJ
Arochlor 1254	740	ug/kg	14 UJ	13 UJ	16 UJ	13 UJ	16 UJ	17 UJ	17 UJ	16 UJ
Arochlor 1260	740	ug/kg	10 UJ	10 UJ	13 UJ	10 UJ	12 UJ	13 UJ	13 UJ	12 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT G5	DUT G5	DUT G5	DUT H1	DUT H1	DUT H1	DUT H2	DUT H2	DUT H2	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019		
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	10 UJ	11 UJ	12 UJ	11 UJ	12 UJ	13 UJ	10 UJ	12 UJ	12 UJ
Arochlor 1221	140	ug/kg	13 UJ	14 UJ	16 UJ	15 UJ	16 UJ	17 UJ	13 UJ	16 UJ	16 UJ
Arochlor 1232	140	ug/kg	6 UJ	6.6 UJ	7.5 UJ	6.9 UJ	7.4 UJ	7.8 UJ	6 UJ	7.2 UJ	7.3 UJ
Arochlor 1242	740	ug/kg	5 UJ	5.5 UJ	6.2 UJ	5.7 UJ	6.1 UJ	6.5 UJ	5 UJ	6 UJ	6.1 UJ
Arochlor 1248	740	ug/kg	8.1 UJ	8.9 UJ	9.9 UJ	9.2 UJ	9.8 UJ	10 UJ	8 UJ	9.6 UJ	9.7 UJ
Arochlor 1254	740	ug/kg	13 UJ	14 UJ	16 UJ	15 UJ	16 UJ	17 UJ	13 UJ	16 UJ	16 UJ
Arochlor 1260	740	ug/kg	10 UJ	11 UJ	12 UJ	11 UJ	12 UJ	13 UJ	10 UJ	12 UJ	12 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT H3	DUT H3	DUT H3	DUT H4	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	14 U	12 U	13 U	11 U	10 U	11 U	10 U	11 U	12 U
Arochlor 1221	140	ug/kg	18 U	15 U	16 U	15 U	14 U	14 U	13 U	14 U	16 U
Arochlor 1232	140	ug/kg	8.3 U	7.1 U	7.5 U	6.7 U	6.2 U	6.4 U	6 U	6.3 U	7.4 U
Arochlor 1242	740	ug/kg	6.9 U	5.9 U	6.3 U	5.6 U	5.2 U	5.3 U	5 U	5.3 U	6.1 U
Arochlor 1248	740	ug/kg	11 U	9.4 U	10 U	9 U	8.3 U	8.5 U	8 U	8.5 U	9.8 U
Arochlor 1254	740	ug/kg	18 U	15 U	16 U	15 U	14 U	14 U	13 U	14 U	16 U
Arochlor 1260	740	ug/kg	14 U	12 U	13 U	11 U	10 U	11 U	10 U	11 U	12 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT I1	DUT I1	DUT I1	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3	
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15		
Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
Chemical	CC	Units									
Arochlor 1016	7400	ug/kg	10 U	12 U	12 U	10 U	11 U	12 U	11 UJ	12 U	12 UJ
Arochlor 1221	140	ug/kg	13 U	16 U	15 U	13 U	15 U	15 U	14 UJ	15 U	16 UJ
Arochlor 1232	140	ug/kg	6.1 U	7.4 U	6.9 U	6.2 U	6.8 U	7.1 U	6.5 UJ	7 U	7.3 UJ
Arochlor 1242	740	ug/kg	5.1 U	6.2 U	5.8 U	5.1 U	5.7 U	5.9 U	5.4 UJ	5.9 U	6.1 UJ
Arochlor 1248	740	ug/kg	8.1 U	9.8 U	9.2 U	8.2 U	9.1 U	9.4 U	8.7 UJ	9.4 U	9.7 UJ
Arochlor 1254	740	ug/kg	13 U	16 U	15 U	13 U	15 U	15 U	14 UJ	15 U	16 UJ
Arochlor 1260	740	ug/kg	10 U	12 U	12 U	10 U	11 U	12 U	11 UJ	12 U	12 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT I4	DUT I4	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 U	12 U	12 U	10 U	11 UJ	11 UJ	11 U	11 UJ
Arochlor 1221	140	ug/kg	14 U	15 U	15 U	13 U	14 UJ	14 UJ	14 U	14 UJ
Arochlor 1232	140	ug/kg	6.3 U	7.1 U	7 U	6.1 U	6.5 UJ	6.4 UJ	6.4 U	6.6 UJ
Arochlor 1242	740	ug/kg	5.2 U	5.9 U	5.9 U	5.1 U	5.4 UJ	5.4 UJ	5.4 U	5.5 UJ
Arochlor 1248	740	ug/kg	8.4 U	9.4 U	9.4 U	8.1 U	8.6 UJ	8.6 UJ	8.6 U	8.8 UJ
Arochlor 1254	740	ug/kg	14 U	15 U	15 U	13 U	14 UJ	14 UJ	14 U	14 UJ
Arochlor 1260	740	ug/kg	10 U	12 U	12 UJ	10 U	11 UJ	11 UJ	11 U	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT J2	DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	10 U	10 U	60 U	10 U	10 U	10 UJ	11 UJ	11 UJ
Arochlor 1221	140	ug/kg	13 U	14 U	78 U	13 U	14 U	16 U	14 U	14 U
Arochlor 1232	140	ug/kg	6.1 U	6.2 U	36 U	6 U	6.3 U	7.2 U	6.2 U	6.7 U
Arochlor 1242	740	ug/kg	5.1 U	5.2 U	30 U	5 U	5.2 U	6 U	5.2 U	5.6 U
Arochlor 1248	740	ug/kg	8.2 U	8.3 U	48 U	8 U	8.4 U	9.6 U	8.3 U	8.9 U
Arochlor 1254	740	ug/kg	13 U	14 U	78 U	13 U	14 U	16 U	14 U	14 U
Arochlor 1260	740	ug/kg	10 U	10 U	60 U	10 U	10 U	12 U	10 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT J5	DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	DUT K2
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	11 UJ	11 UJ	10 UJ	11 UJ	12 UJ	10 UJ	12 U	12 U
Arochlor 1221	140	ug/kg	14 U	14 U	14 U	15 UJ	15 UJ	13 U	16 U	16 U
Arochlor 1232	140	ug/kg	6.4 U	6.5 U	6.5 U	6.9 UJ	6.9 UJ	6.1 U	7.3 U	7.2 U
Arochlor 1242	740	ug/kg	5.3 U	5.4 U	5.2 U	5.7 UJ	5.8 UJ	5 U	6 U	6 U
Arochlor 1248	740	ug/kg	8.5 U	8.7 U	8.6 U	9.2 UJ	9.2 UJ	8.1 U	9.7 U	9.6 U
Arochlor 1254	740	ug/kg	14 U	14 U	14 U	15 UJ	15 UJ	13 U	16 U	16 U
Arochlor 1260	740	ug/kg	11 UJ	11 UJ	10 UJ	11 UJ	12 UJ	10 UJ	12 U	12 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5	DUT K5	DUT K5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019	7/30/2019	7/30/2019	
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	9.9 U	12 U	11 U	10 U	12 U	12 U	10 U	11 U
Arochlor 1221	140	ug/kg	13 U	15 U	14 U	13 U	16 U	16 U	13 U	14 U
Arochlor 1232	140	ug/kg	5.9 U	6.9 U	6.5 U	6.1 U	7.4 U	7.3 U	6.2 U	6.7 U
Arochlor 1242	740	ug/kg	4.9 U	5.8 U	5.4 U	5.1 U	6.1 U	6.1 U	5.2 U	5.5 U
Arochlor 1248	740	ug/kg	7.9 U	9.2 U	8.7 U	8.1 U	9.8 U	9.7 U	8.3 U	8.9 U
Arochlor 1254	740	ug/kg	13 U	15 U	14 U	13 U	16 U	16 U	13 U	14 U
Arochlor 1260	740	ug/kg	9.9 U	12 U	11 U	10 U	12 U	12 U	10 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	DUT L2	DUT L3	DUT L3	DUT L3
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019
Chemical	CC	Units								
Arochlor 1016	7400	ug/kg	11 U	10 U	12 U	10 U	12 U	11 U	13 U	12 U
Arochlor 1221	140	ug/kg	14 U	14 U	16 U	14 U	15 U	15 U	16 U	16 U
Arochlor 1232	140	ug/kg	6.6 U	6.3 U	7.4 U	6.3 U	7.1 U	6.9 U	6.7 U	7.5 U
Arochlor 1242	740	ug/kg	5.5 U	5.2 U	6.2 U	5.2 U	5.9 U	5.8 U	5.6 U	6.3 U
Arochlor 1248	740	ug/kg	8.7 U	8.4 U	9.9 U	8.3 U	9.5 U	9.3 U	8.9 U	10 U
Arochlor 1254	740	ug/kg	14 U	14 U	16 U	14 U	15 U	15 U	16 U	16 U
Arochlor 1260	740	ug/kg	11 UJ	10 UJ	12 UJ	10 UJ	12 UJ	12 UJ	11 UJ	13 UJ
										12 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 4
DUTRA PCB RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT L4	DUT L4	DUT L4	DUT L5	DUT L5	DUT L5
Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	
Date	7/30/2019	7/30/2019	7/30/2019	7/31/2019	7/31/2019	7/31/2019	
Chemical	CC	Units					
Arochlor 1016	7400	ug/kg	11 U	10 U	12 U	11 UJ	11 UJ
Arochlor 1221	140	ug/kg	14 U	13 U	16 U	14 UJ	14 UJ
Arochlor 1232	140	ug/kg	6.3 U	6.2 U	7.3 U	6.6 UJ	6.5 UJ
Arochlor 1242	740	ug/kg	5.3 U	5.1 U	6.1 U	5.5 UJ	5.4 UJ
Arochlor 1248	740	ug/kg	8.5 U	8.2 U	9.7 U	8.7 UJ	8.7 UJ
Arochlor 1254	740	ug/kg	14 U	13 U	16 U	14 UJ	14 UJ
Arochlor 1260	740	ug/kg	11 UJ	10 UJ	12 UJ	11 UJ	11 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT A1	DUT A1	DUT A1	DUT A2	DUT A2	DUT A2	DUT A3	DUT A3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019
4,4'-DDD		ug/kg	0.36 J	2	0.25 U	0.22 U	2.7 J	0.22 UJ	0.27 J	1.7
4,4'-DDE		ug/kg	0.15 J	1.2	0.54 J	0.22 U	1.2 J	0.4 J	0.17 J	1.2
4,4'-DDT		ug/kg	0.16 J	0.68 J	0.27 J	0.22 UJ	0.8 J	0.22 UJ	0.24 J	0.75 J
Total DDTs	46	ug/kg	0.67 J	3.88 J	1.06 J	0.66 U	4.7 J	0.84 J	0.68 J	3.65 J
Aldrin	290	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.31 U	0.35 U	0.51 J	0.33 U	0.33 UJ	0.33 UJ	0.35 U	0.35 U
Chlordane	16000	ug/kg	3.5 UJ	3.9 UJ	4.2 UJ	3.6 UJ	3.7 UJ	3.6 UJ	3.9 UJ	3.9 UJ
Dieldren	8	ug/kg	0.21 UJ	0.23 U	0.25 U	0.22 U	0.32 J	0.22 UJ	0.23 U	0.13 J
Endosulfan I	3700000	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Endosulfan II	3700000	ug/kg	0.21 UJ	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Endrin	45	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Heptachlor	1100	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Heptachlor Epoxide	53	ug/kg	0.21 U	0.23 U	0.25 U	0.22 U	0.22 UJ	0.22 UJ	0.23 U	0.23 U
Methoxychlor	310000	ug/kg	0.31 UJ	0.35 UJ	0.37 UJ	0.33 UJ	0.33 UJ	0.33 UJ	0.35 UJ	0.35 UJ
Toxaphene	4400	ug/kg	6.8 UJ	7.6 UJ	8.1 UJ	7 UJ	7.2 UJ	7.1 UJ	7.6 UJ	7.6 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT A3	DUT A4	DUT A4	DUT A4	DUT B1	DUT B1	DUT B1	DUT B2	
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15	
			Date	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	7/17/2019	
4,4'-DDD		ug/kg		2.6 J	0.48 J	2.2 J	1.2 J	1.1 J	3.2 J	0.26 U	1.6
4,4'-DDE		ug/kg		1.4 J	0.1 J	0.62 J	0.38 J	0.28 J	1	0.26 U	1.6
4,4'-DDT		ug/kg		0.23 UJ	0.21 UJ	0.18 J	0.26 UJ	0.22 UJ	0.24 UJ	0.26 U	0.54 J
Total DDTs	46	ug/kg		4.23 J	0.79 J	3 J	1.84 J	1.6 J	4.44 J	0.78 U	3.74 J
Aldrin	290	ug/kg		0.23 UJ	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Alpha-hexachlorocyclohexane	770	ug/kg		0.23 UJ	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Beta-hexachlorocyclohexane	2700	ug/kg		0.34 UJ	0.31 UJ	0.35 U	0.38 U	0.33 U	0.36 U	0.39 U	0.32 U
Chlordane	16000	ug/kg		3.8 UJ	3.5 UJ	4 U	4.3 U	3.7 U	4 U	4.3 U	3.6 U
Dieldren	8	ug/kg		0.54 J	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Endosulfan I	3700000	ug/kg		0.23 UJ	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Endosulfan II	3700000	ug/kg		0.23 UJ	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Endrin	45	ug/kg		0.23 UJ	0.21 UJ	0.24 UJ	0.26 UJ	0.22 UJ	0.24 UJ	0.26 U	0.21 U
gamma-hexachlorocyclohexane	5200	ug/kg		0.23 UJ	0.21 UJ	0.24 UJ	0.26 UJ	0.22 UJ	0.24 UJ	0.26 U	0.21 U
Heptachlor	1100	ug/kg		0.23 UJ	0.21 UJ	0.24 UJ	0.26 UJ	0.22 UJ	0.24 UJ	0.26 U	0.21 U
Heptachlor Epoxide	53	ug/kg		0.23 UJ	0.21 UJ	0.24 U	0.26 U	0.22 U	0.24 U	0.26 U	0.21 U
Methoxychlor	310000	ug/kg		0.34 UJ	0.31 UJ	0.35 UJ	0.38 UJ	0.33 UJ	0.36 UJ	0.39 U	0.32 U
Toxaphene	4400	ug/kg		7.4 UJ	6.8 UJ	7.7 UJ	8.3 UJ	7.1 UJ	7.8 UJ	8.4 U	7 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT B2	DUT B2	DUT B3	DUT B3	DUT B3	DUT B4	DUT B4	DUT B4	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	
			Date	7/17/2019	7/17/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	
4,4'-DDD		ug/kg		3 J	2.7 J	1.2 J	1.3 J	1.5 J	0.77 J	33 J	0.24 UJ
4,4'-DDE		ug/kg		1.7 J	1.1 J	0.28 J	0.6 J	0.62 J	1.2 J	5.2 J	0.24 UJ
4,4'-DDT		ug/kg		1.1 J	0.89 J	0.52 J	0.5 J	1.5 J	0.58 J	140 J	0.24 UJ
Total DDTs	46	ug/kg		5.8 J	4.69 J	2 J	2.4 J	3.62 J	2.55 J	178.2 J	0.72 UJ
Aldrin	290	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Alpha-hexachlorocyclohexane	770	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Beta-hexachlorocyclohexane	2700	ug/kg		0.33 UJ	0.34 UJ	0.32 UJ	0.31 UJ	0.33 UJ	0.3 UJ	0.32 UJ	0.36 UJ
Chlordane	16000	ug/kg		3.7 UJ	3.8 UJ	3.6 UJ	3.4 UJ	3.7 UJ	3.3 UJ	3.5 UJ	4 UJ
Dieldren	8	ug/kg		0.22 UJ	0.19 J	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Endosulfan I	3700000	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Endosulfan II	3700000	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Endrin	45	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
gamma-hexachlorocyclohexane	5200	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Heptachlor	1100	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Heptachlor Epoxide	53	ug/kg		0.22 UJ	0.23 UJ	0.21 UJ	0.2 UJ	0.22 UJ	0.2 UJ	0.21 UJ	0.24 UJ
Methoxychlor	310000	ug/kg		0.33 UJ	0.34 UJ	0.32 UJ	0.31 UJ	0.33 UJ	0.3 UJ	0.32 UJ	0.36 UJ
Toxaphene	4400	ug/kg		7.1 UJ	7.4 UJ	6.9 UJ	6.6 UJ	7.1 UJ	6.4 UJ	6.9 UJ	7.8 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT B5	DUT B5	DUT B5	DUT C1	DUT C1	DUT C1	DUT C2	DUT C2
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019	7/18/2019
4,4'-DDD		ug/kg	0.12 J	0.23 J	1.4 J	0.85 J	3.7 J	0.25 UJ	1.5 J	0.91 J
4,4'-DDE		ug/kg	0.21 UJ	0.12 J	1.2 J	0.24 J	0.64 J	0.21 J	0.4 J	0.96 J
4,4'-DDT		ug/kg	0.21 UJ	0.21 UJ	0.63 J	0.59 J	0.66 J	0.25 UJ	0.62 J	0.44 J
Total DDTs	46	ug/kg	0.54 J	0.56 J	3.23 J	1.68 J	5 J	0.71 J	2.52 J	2.31 J
Aldrin	290	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Alpha-hexachlorocyclohexane	770	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Beta-hexachlorocyclohexane	2700	ug/kg	0.31 UJ	0.32 UJ	0.34 UJ	0.31 UJ	0.32 UJ	0.37 UJ	0.33 UJ	0.34 UJ
Chlordane	16000	ug/kg	3.4 UJ	3.5 UJ	3.8 UJ	3.5 UJ	3.6 UJ	4.1 UJ	3.7 UJ	3.8 UJ
Dieldren	8	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Endosulfan I	3700000	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Endosulfan II	3700000	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Endrin	45	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
gamma-hexachlorocyclohexane	5200	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Heptachlor	1100	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Heptachlor Epoxide	53	ug/kg	0.21 UJ	0.21 UJ	0.23 UJ	0.21 UJ	0.21 UJ	0.25 UJ	0.22 UJ	0.22 UJ
Methoxychlor	310000	ug/kg	0.31 UJ	0.32 UJ	0.34 UJ	0.31 UJ	0.32 UJ	0.37 UJ	0.33 UJ	0.34 UJ
Toxaphene	4400	ug/kg	6.7 UJ	6.9 UJ	7.4 UJ	6.8 UJ	7 UJ	8 UJ	7.1 UJ	7.3 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT C2	DUT C3	DUT C3	DUT C3	DUT C4	DUT C4	DUT C4	DUT C5
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/18/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019
4,4'-DDD		ug/kg	0.33 J-	1.4	0.78 J	0.62 J	3.4	1.3	0.5 J	0.2 J
4,4'-DDE		ug/kg	0.19 J-	0.4 J	0.42 J	0.58 J	1.1	0.37 J	0.34 J	0.12 J
4,4'-DDT		ug/kg	0.14 J-	0.67 J	0.43 J	0.82 J	1 J	0.43 J	0.23 J	0.2 UJ
Total DDTs	46	ug/kg	0.66 J-	2.47 J	1.63 J	2.02 J	5.5 J	2.1 J	1.07 J	0.52 J
Aldrin	290	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.33 UJ	0.32 U	0.32 U	0.34 U	0.35 U	0.34 U	0.34 U	0.3 U
Chlordane	16000	ug/kg	3.7 UJ	3.5 U	3.6 U	3.7 U	3.8 U	3.9 U	3.8 U	3.4 U
Dieldren	8	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Endosulfan I	3700000	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Endosulfan II	3700000	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Endrin	45	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Heptachlor	1100	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Heptachlor Epoxide	53	ug/kg	0.22 UJ	0.21 U	0.21 U	0.22 U	0.23 U	0.23 U	0.23 U	0.2 U
Methoxychlor	310000	ug/kg	0.33 UJ	0.32 U	0.32 U	0.33 U	0.34 U	0.35 U	0.34 U	0.3 U
Toxaphene	4400	ug/kg	7.1 UJ	6.8 U	6.9 U	7.2 U	7.4 U	7.6 U	7.4 U	6.6 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT C5	DUT C5	DUT D1	DUT D1	DUT D1	DUT D2	DUT D2	DUT D2	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	7/19/2019	
4,4'-DDD		ug/kg		1.4 J	0.63 J	1	1.7	0.22 U	1.1	0.78 J	0.25 U
4,4'-DDE		ug/kg		1.7	0.69 J	0.29 J	1.2	0.22 U	0.85	0.45 J	0.25 U
4,4'-DDT		ug/kg		0.8 UJ	0.45 J	0.35 J	0.85 J	0.22 UJ	0.44 J	0.45 J	0.25 UJ
Total DDTs	46	ug/kg		3.9 J	1.77 J	1.64 J	3.75 J	0.66 U	2.39 J	1.68 J	0.75 U
Aldrin	290	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Alpha-hexachlorocyclohexane	770	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Beta-hexachlorocyclohexane	2700	ug/kg		0.35 U	0.33 U	0.32 U	0.31 U	0.34 U	0.3 U	0.32 U	0.38 U
Chlordane	16000	ug/kg		3.9 U	3.7 U	3.6 U	3.5 U	3.8 U	3.3 U	3.5 U	4.2 U
Dieldren	8	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Endosulfan I	3700000	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Endosulfan II	3700000	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Endrin	45	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
gamma-hexachlorocyclohexane	5200	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Heptachlor	1100	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Heptachlor Epoxide	53	ug/kg		0.23 U	0.22 U	0.21 U	0.21 U	0.22 U	0.2 U	0.21 U	0.25 U
Methoxychlor	310000	ug/kg		0.35 U	0.33 U	0.32 U	0.31 UJ	0.34 UJ	0.3 UJ	0.32 UJ	0.38 UJ
Toxaphene	4400	ug/kg		7.6 U	7.2 U	6.9 U	6.7 UJ	7.3 UJ	6.4 UJ	6.9 UJ	8.2 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT D3	DUT D3	DUT D3	DUT D4	DUT D4	DUT D4	DUT D5	DUT D5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/19/2019	7/19/2019	7/19/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019
4,4'-DDD		ug/kg	0.29 J	1.1	1.1	0.26 J	2.7 J	1.3	0.33 J	1.1
4,4'-DDE		ug/kg	0.18 J	0.76 J	0.63 J	0.16 J	1.2 J	1.6	0.21 UJ	0.58 J
4,4'-DDT		ug/kg	0.2 J	0.54 J	0.6 J	0.21 U	1.1 J	0.4 J	0.17 J	0.2 J
Total DDTs	46	ug/kg	0.67 J	2.4 J	2.33 J	0.63 J	5 J	3.3 J	0.71 J	1.88 J
Aldrin	290	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.3 U	0.32 U	0.36 U	0.32 U	0.34 UJ	0.35 U	0.31 UJ	0.32 U
Chlordane	16000	ug/kg	3.4 U	3.6 U	4 U	3.5 U	3.8 UJ	3.9 U	3.5 UJ	3.6 U
Dieldren	8	ug/kg	0.2 U	0.21 U	0.24 U	0.2 UJ	0.23 UJ	0.3 J	0.21 UJ	0.22 UJ
Endosulfan I	3700000	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Endosulfan II	3700000	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Endrin	45	ug/kg	0.2 U	0.21 U	0.24 U	0.2 UJ	0.23 UJ	0.23 UJ	0.21 UJ	0.22 UJ
gamma-hexachlorocyclohexane	5200	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Heptachlor	1100	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Heptachlor Epoxide	53	ug/kg	0.2 U	0.21 U	0.24 U	0.21 U	0.23 UJ	0.23 U	0.21 UJ	0.22 U
Methoxychlor	310000	ug/kg	0.3 UJ	0.32 UJ	0.36 UJ	0.32 U	0.34 UJ	0.35 U	0.31 UJ	0.32 U
Toxaphene	4400	ug/kg	6.6 UJ	6.9 UJ	7.7 UJ	6.8 U	7.5 UJ	7.6 U	6.8 UJ	7 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT D5	DUT E1	DUT E1	DUT E1	DUT E2	DUT E2	DUT E2	DUT E3
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/22/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/31/2019	7/22/2019
4,4'-DDD		ug/kg	0.32 J	1.7 J	0.24 UJ	0.25 UJ	1.3	0.23 U	2 J	0.98
4,4'-DDE		ug/kg	0.22 J	0.37 J	0.32 J	0.25 UJ	3.7	0.23 U	0.55 J	0.4 J
4,4'-DDT		ug/kg	0.22 U	3.3	0.61 J	0.25 UJ	1.1 J	0.23 UJ	1.4	1.2
Total DDTs	46	ug/kg	0.76 J	5.37 J	1.17 J	0.75 UJ	6.1 J	0.69 U	3.95 J	2.58 J
Aldrin	290	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.32 U	0.3 U	0.36 UJ	0.38 UJ	0.34 U	0.35 U	0.33 U	0.31 U
Chlordane	16000	ug/kg	3.6 U	3.4 U	4 UJ	4.2 UJ	3.8 U	3.9 U	3.6 U	3.5 U
Dieldren	8	ug/kg	0.22 UJ	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 UJ
Endosulfan I	3700000	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Endosulfan II	3700000	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Endrin	45	ug/kg	0.22 UJ	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 UJ
gamma-hexachlorocyclohexane	5200	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Heptachlor	1100	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Heptachlor Epoxide	53	ug/kg	0.22 U	0.2 U	0.24 UJ	0.25 UJ	0.22 U	0.23 U	0.22 U	0.21 U
Methoxychlor	310000	ug/kg	0.32 U	0.3 U	0.36 UJ	0.38 UJ	0.34 U	0.35 UJ	0.33 U	0.31 U
Toxaphene	4400	ug/kg	7 U	180 J	7.9 UJ	8.2 UJ	7.3 U	1100 J	79 J	6.8 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT E3	DUT E3	DUT E4	DUT E4	DUT E4	DUT E5	DUT E5	DUT E5	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/22/2019	7/23/2019	7/23/2019	7/23/2019
4,4'-DDD		ug/kg	0.16 J	0.42 J	3	0.98 J	1.2 J	0.67 J	1.7	1.1	
4,4'-DDE		ug/kg	0.39 J	0.1 J	2.7	1	0.56 J	0.31 J	0.73 J	0.55 J	
4,4'-DDT		ug/kg	0.23 U	0.23 UJ	0.78 J	0.46 J	0.25 J	0.23 UJ	0.29 UJ	0.37 UJ	
Total DDTs	46	ug/kg	0.78 J	0.75 J	6.48 J	2.44 J	2.01 J	1.21 J	2.72 J	2.02 J	
Aldrin	290	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Alpha-hexachlorocyclohexane	770	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Beta-hexachlorocyclohexane	2700	ug/kg	0.35 U	0.34 UJ	0.36 U	0.35 U	0.33 UJ	0.32 U	0.34 U	0.34 U	
Chlordane	16000	ug/kg	3.9 U	3.8 UJ	4 U	3.9 U	3.7 UJ	3.6 U	3.8 U	3.8 U	
Dieldren	8	ug/kg	0.23 UJ	0.23 UJ	0.28 J	0.24 UJ	0.22 UJ	0.21 U	0.23 U	0.22 U	
Endosulfan I	3700000	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Endosulfan II	3700000	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Endrin	45	ug/kg	0.23 UJ	0.23 UJ	0.24 UJ	0.24 UJ	0.22 UJ	0.21 U	0.23 U	0.22 U	
gamma-hexachlorocyclohexane	5200	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Heptachlor	1100	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Heptachlor Epoxide	53	ug/kg	0.23 U	0.23 UJ	0.24 U	0.23 U	0.22 UJ	0.21 U	0.23 U	0.22 U	
Methoxychlor	310000	ug/kg	0.35 U	0.34 UJ	0.36 U	0.35 U	0.33 UJ	0.32 U	0.34 U	0.34 U	
Toxaphene	4400	ug/kg	7.5 U	7.5 UJ	7.8 U	7.5 U	7.1 UJ	6.9 U	7.3 U	7.3 U	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT F1	DUT F1	DUT F1	DUT F2	DUT F2	DUT F2	DUT F3	DUT F3
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
4,4'-DDD		ug/kg	0.55 J	0.62 J	0.77 UJ	0.61 J	1.4 J	1.1 U	1	0.76 J
4,4'-DDE		ug/kg	0.19 J	0.22 J	0.23 J	0.2 J	1.7	1.1 U	0.37 J	0.96 J
4,4'-DDT		ug/kg	0.26 UJ	0.53 UJ	0.36 UJ	0.7 UJ	0.96 J	1.1 UJ	0.38 J	0.41 J
Total DDTs	46	ug/kg	1 J	1.37 J	1.36 J	1.51 J	4.06 J	3.3 U	1.75 J	2.13 J
Aldrin	290	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.32 U	0.32 U	0.32 U	0.31 U	0.34 U	1.7 U	0.32 U	0.34 U
Chlordane	16000	ug/kg	3.5 U	3.6 U	3.6 U	3.5 U	3.8 U	19 U	3.5 U	3.8 U
Dieldren	8	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Endosulfan I	3700000	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Endosulfan II	3700000	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Endrin	45	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Heptachlor	1100	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Heptachlor Epoxide	53	ug/kg	0.21 U	0.22 U	0.21 U	0.21 U	0.23 U	1.1 U	0.21 U	0.23 U
Methoxychlor	310000	ug/kg	0.32 U	0.32 U	0.32 UJ	0.31 U	0.34 UJ	1.7 U	0.32 U	0.34 UJ
Toxaphene	4400	ug/kg	6.9 U	7 U	7 UJ	6.7 U	7.4 UJ	37 U	6.9 U	7.5 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT F3	DUT F4	DUT F4	DUT F4	DUT F5	DUT F5	DUT F5	DUT G1
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019	7/23/2019
4,4'-DDD		ug/kg	0.4 J	0.35 J	0.86 J	0.22 UJ	0.15 J	0.54 J	0.21 UJ	0.64 J
4,4'-DDE		ug/kg	0.37 J	0.24 J	0.63 J	0.12 J	0.2 U	0.29 J	0.27 J	0.18 J
4,4'-DDT		ug/kg	0.23 UJ	0.3 J	0.39 J	0.22 UJ	0.2 UJ	0.22 J	0.21 UJ	0.14 J
Total DDTs	46	ug/kg	1 J	0.89 J	1.88 J	0.56 J	0.55 J	1.05 J	0.69 J	0.96 J
Aldrin	290	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.35 U	0.31 U	0.3 U	0.32 U	0.3 U	0.31 U	0.32 U	0.32 U
Chlordane	16000	ug/kg	3.9 U	3.5 U	3.4 U	3.6 U	3.4 U	3.5 U	3.6 U	3.6 U
Dieldren	8	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Endosulfan I	3700000	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Endosulfan II	3700000	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Endrin	45	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Heptachlor	1100	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Heptachlor Epoxide	53	ug/kg	0.23 U	0.21 U	0.2 U	0.22 U	0.2 U	0.21 U	0.21 U	0.22 U
Methoxychlor	310000	ug/kg	0.35 UJ	0.31 U	0.3 UJ	0.32 UJ	0.3 U	0.31 UJ	0.32 UJ	0.32 UJ
Toxaphene	4400	ug/kg	7.5 UJ	6.8 U	6.5 UJ	7 UJ	6.5 U	6.7 UJ	7 UJ	7 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G1	DUT G1	DUT G2	DUT G2	DUT G2	DUT G3	DUT G3	DUT G3	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/23/2019	7/23/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	
4,4'-DDD		ug/kg		1.5 J	0.28 J	1.2 J	1.6 J	0.25 UJ	0.92 J	1.7 J	0.26 UJ
4,4'-DDE		ug/kg		0.65 J	0.46 J	0.3 J	0.65 J	0.22 J	1.1 J	0.61 J	0.28 J
4,4'-DDT		ug/kg		0.39 J	0.15 J	0.64 J	0.78 J	0.17 J	0.64 J	0.56 J	0.2 J
Total DDTs	46	ug/kg		2.54 J	0.89 J	2.14 J	3.03 J	0.64 J	2.66 J	2.87 J	0.74 J
Aldrin	290	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Alpha-hexachlorocyclohexane	770	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Beta-hexachlorocyclohexane	2700	ug/kg		0.35 U	0.33 U	0.31 UJ	0.3 UJ	0.38 UJ	0.31 UJ	0.36 UJ	0.39 UJ
Chlordane	16000	ug/kg		3.9 U	3.7 U	3.5 UJ	3.4 UJ	4.2 UJ	3.4 UJ	4 UJ	4.3 UJ
Dieldren	8	ug/kg		0.12 J	0.22 UJ	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Endosulfan I	3700000	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Endosulfan II	3700000	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Endrin	45	ug/kg		0.23 U	0.22 UJ	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
gamma-hexachlorocyclohexane	5200	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Heptachlor	1100	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Heptachlor Epoxide	53	ug/kg		0.23 U	0.22 U	0.21 UJ	0.2 UJ	0.25 UJ	0.2 UJ	0.24 UJ	0.26 UJ
Methoxychlor	310000	ug/kg		0.35 UJ	0.33 U	0.31 UJ	0.3 UJ	0.38 UJ	0.31 UJ	0.36 UJ	0.39 UJ
Toxaphene	4400	ug/kg		7.5 UJ	7.2 U	6.8 UJ	6.6 UJ	8.1 UJ	6.6 UJ	7.8 UJ	8.4 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT G4	DUT G4	DUT G4	DUT G5	DUT G5	DUT G5	DUT H1	DUT H1
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/24/2019
4,4'-DDD		ug/kg	0.57 J	3.6 J	0.24 UJ	0.44 J	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
4,4'-DDE		ug/kg	0.58 J	0.25 UJ	0.24 UJ	0.2 UJ	0.62 J	0.18 J	0.29 J	0.25 UJ
4,4'-DDT		ug/kg	1.5 J	0.85 J	0.19 J	0.47 J	0.52 J	0.25 UJ	0.25 J	0.25 UJ
Total DDTs	46	ug/kg	2.65 J	4.7 J	0.67 J	1.11 J	1.36 J	0.68 J	0.77 J	0.75 UJ
Aldrin	290	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Alpha-hexachlorocyclohexane	770	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Beta-hexachlorocyclohexane	2700	ug/kg	0.39 UJ	0.37 UJ	0.36 UJ	0.3 UJ	0.33 UJ	0.37 UJ	0.34 UJ	0.37 UJ
Chlordane	16000	ug/kg	4.4 UJ	4.1 UJ	4 UJ	3.4 UJ	3.7 UJ	4.2 UJ	3.8 UJ	4.1 UJ
Dieldren	8	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Endosulfan I	3700000	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Endosulfan II	3700000	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Endrin	45	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
gamma-hexachlorocyclohexane	5200	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Heptachlor	1100	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Heptachlor Epoxide	53	ug/kg	0.26 UJ	0.25 UJ	0.24 UJ	0.2 UJ	0.22 UJ	0.25 UJ	0.23 UJ	0.25 UJ
Methoxychlor	310000	ug/kg	0.39 UJ	0.37 UJ	0.36 UJ	0.3 UJ	0.33 UJ	0.37 UJ	0.34 UJ	0.37 UJ
Toxaphene	4400	ug/kg	8.5 UJ	8 UJ	7.8 UJ	6.5 UJ	7.2 UJ	8.1 UJ	7.5 UJ	8 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT H1	DUT H2	DUT H2	DUT H2	DUT H3	DUT H3	DUT H3	DUT H4
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/24/2019	7/24/2019	7/24/2019	7/24/2019	7/25/2019	7/25/2019	7/25/2019
4,4'-DDD		ug/kg	0.26 UJ	0.75 J	0.24 UJ	0.24 UJ	1.2	0.24 U	0.25 U	2.6
4,4'-DDE		ug/kg	0.26 UJ	0.19 J	0.4 J	0.24 J	0.57 J	0.24 U	0.25 U	0.58 J
4,4'-DDT		ug/kg	0.26 UJ	0.31 J	0.42 J	0.24 UJ	0.3 J	0.24 UJ	0.25 UJ	1.7 J
Total DDTs	46	ug/kg	0.78 UJ	1.25 J	1.06 J	0.72 J	2.07 J	0.72 U	0.75 U	4.88 J
Aldrin	290	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.39 UJ	0.3 UJ	0.36 UJ	0.36 UJ	0.41 U	0.35 U	0.38 U	0.34 U
Chlordane	16000	ug/kg	4.3 UJ	3.4 UJ	4 UJ	4.1 UJ	4.6 U	3.9 U	4.2 U	3.8 U
Dieldren	8	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Endosulfan I	3700000	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Endosulfan II	3700000	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Endrin	45	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Heptachlor	1100	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Heptachlor Epoxide	53	ug/kg	0.26 UJ	0.2 UJ	0.24 UJ	0.24 UJ	0.28 U	0.24 U	0.25 U	0.22 U
Methoxychlor	310000	ug/kg	0.39 UJ	0.3 UJ	0.36 UJ	0.36 UJ	0.41 UJ	0.35 UJ	0.38 UJ	0.34 UJ
Toxaphene	4400	ug/kg	8.4 UJ	6.5 UJ	7.8 UJ	7.9 UJ	9 UJ	7.7 UJ	8.2 UJ	7.3 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT H4	DUT H4	DUT H5	DUT H5	DUT H5	DUT I1	DUT I1	DUT I1	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	
4,4'-DDD		ug/kg	0.78 J	0.64 J	0.27 J	0.3 J	0.25 U	1	0.25 U	0.23 UJ	
4,4'-DDE		ug/kg	0.74 J	0.25 J	0.19 J	0.78 J	0.25 U	0.27 J	0.25 U	0.23 UJ	
4,4'-DDT		ug/kg	0.49 J	0.15 J	0.2 UJ	0.21 UJ	0.25 UJ	0.63 J	0.25 UJ	0.23 UJ	
Total DDTs	46	ug/kg	2.01 J	1.04 J	0.66 J	1.29 J	0.75 U	1.9 J	0.75 U	0.69 UJ	
Aldrin	290	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 U	
Alpha-hexachlorocyclohexane	770	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 U	
Beta-hexachlorocyclohexane	2700	ug/kg	0.31 U	0.32 U	0.3 U	0.32 U	0.37 U	0.3 U	0.37 U	0.35 U	
Chlordane	16000	ug/kg	3.5 U	3.6 U	3.4 U	3.5 U	4.1 U	3.4 U	4.1 U	3.9 U	
Dieldren	8	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 UJ	
Endosulfan I	3700000	ug/kg	0.26 J	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 UJ	
Endosulfan II	3700000	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 UJ	
Endrin	45	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 U	
gamma-hexachlorocyclohexane	5200	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 UJ	
Heptachlor	1100	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 U	
Heptachlor Epoxide	53	ug/kg	0.21 U	0.21 U	0.2 U	0.21 U	0.25 U	0.2 U	0.25 U	0.23 UJ	
Methoxychlor	310000	ug/kg	0.31 UJ	0.32 UJ	0.3 UJ	0.32 UJ	0.37 UJ	0.3 UJ	0.37 UJ	0.35 UJ	
Toxaphene	4400	ug/kg	6.8 UJ	6.9 UJ	6.5 UJ	6.9 UJ	8 UJ	6.6 UJ	8 UJ	7.5 UJ	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I2	DUT I2	DUT I2	DUT I3	DUT I3	DUT I3	DUT I4	DUT I4
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/25/2019	7/26/2019
4,4'-DDD		ug/kg	0.63 J	0.47 J	0.47 J	4.1 J	0.23 U	0.24 UJ	13 J	2.1 J
4,4'-DDE		ug/kg	0.72 J	0.23 U	0.22 J	1.5 J	0.23 U	0.24 UJ	1.9	0.65 J
4,4'-DDT		ug/kg	0.83 J	0.23 UJ	0.24 UJ	1.2 J	0.23 UJ	0.24 UJ	0.71 J	0.55 J
Total DDTs	46	ug/kg	2.18 J	0.93 J	0.93 J	6.8 J	0.69 U	0.72 UJ	15.61 J	3.3 J
Aldrin	290	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.31 U	0.34 U	0.35 U	0.33 UJ	0.35 U	0.36 UJ	0.31 U	0.35 U
Chlordane	16000	ug/kg	3.4 U	3.8 U	4 U	3.6 UJ	3.9 U	4.1 UJ	3.5 UJ	3.9 UJ
Dieldren	8	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 UJ
Endosulfan I	3700000	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 UJ
Endosulfan II	3700000	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 UJ
Endrin	45	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
Heptachlor	1100	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
Heptachlor Epoxide	53	ug/kg	0.21 U	0.23 U	0.24 U	0.22 UJ	0.23 U	0.24 UJ	0.21 U	0.24 U
Methoxychlor	310000	ug/kg	0.31 UJ	0.34 UJ	0.35 UJ	0.33 UJ	0.35 UJ	0.36 UJ	0.31 U	0.35 UJ
Toxaphene	4400	ug/kg	6.7 UJ	7.4 UJ	7.7 UJ	7.1 UJ	7.6 UJ	7.9 UJ	6.8 U	7.6 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT I4	DUT I5	DUT I5	DUT I5	DUT J1	DUT J1	DUT J1	DUT J2
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019
4,4'-DDD		ug/kg	0.23 U	1.4	0.22 UJ	0.21 UJ	1.2	1.5 J	0.23 UJ	1.1
4,4'-DDE		ug/kg	0.44 J	0.44 J	0.15 J	0.35 J	0.52 J	0.43 J	0.23 UJ	0.37 J
4,4'-DDT		ug/kg	0.43 J	1.1 J	0.22 J	0.38 J	0.46 J	0.32 J	0.46 J	0.29 J
Total DDTs	46	ug/kg	1.1 J	2.94 J	0.59 J	0.94 J	2.18 J	2.25 J	0.92 J	1.76 J
Aldrin	290	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.35 U	0.3 U	0.32 UJ	0.32 UJ	0.32 U	0.33 UJ	0.35 UJ	0.31 U
Chlordane	16000	ug/kg	3.9 U	3.4 UJ	3.6 UJ	3.6 UJ	3.6 UJ	3.7 UJ	3.9 UJ	3.4 UJ
Dieldren	8	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Endosulfan I	3700000	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Endosulfan II	3700000	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Endrin	45	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Heptachlor	1100	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Heptachlor Epoxide	53	ug/kg	0.23 U	0.2 U	0.22 UJ	0.21 UJ	0.21 U	0.22 UJ	0.23 UJ	0.2 U
Methoxychlor	310000	ug/kg	0.35 U	0.3 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.33 UJ	0.35 UJ	0.31 UJ
Toxaphene	4400	ug/kg	7.6 U	6.6 U	7 UJ	7 UJ	7 U	7.2 UJ	7.5 UJ	6.6 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

ug/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	Location ID	DUT J2	DUT J2	DUT J3	DUT J3	DUT J3	DUT J4	DUT J4	DUT J4
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/26/2019	7/29/2019	7/29/2019	7/29/2019
4,4'-DDD		ug/kg		1.4 J	1.2 U	2.2	3.6 J	0.24 U	0.7 J	0.22 U	0.21 U
4,4'-DDE		ug/kg		0.61 J	1.2 U	1.5	1.6	0.38 J	0.91 J	0.63 J	0.47 J
4,4'-DDT		ug/kg		0.47 J	1.2 UJ	0.85 J	0.96 J	0.37 J	0.59 J	0.6 J	0.21 UJ
Total DDTs	46	ug/kg		2.48 J	3.6 U	4.55 J	6.16 J	0.99 J	2.2 J	1.45 J	0.89 J
Aldrin	290	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 U	0.22 U	0.21 U
Alpha-hexachlorocyclohexane	770	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 U	0.22 U	0.21 U
Beta-hexachlorocyclohexane	2700	ug/kg		0.31 U	1.8 U	0.3 U	0.31 U	0.36 U	0.31 U	0.33 U	0.32 U
Chlordane	16000	ug/kg		3.5 UJ	20 UJ	3.4 UJ	3.5 UJ	4 UJ	3.5 UJ	3.7 UJ	3.6 UJ
Dieldren	8	ug/kg		0.21 U	1.2 U	0.2 J	0.21 U	0.24 U	0.21 UJ	0.22 UJ	0.21 UJ
Endosulfan I	3700000	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 U	0.22 U	0.21 U
Endosulfan II	3700000	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 UJ	0.22 UJ	0.21 UJ
Endrin	45	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 UJ	0.22 UJ	0.21 UJ
gamma-hexachlorocyclohexane	5200	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 U	0.22 U	0.21 U
Heptachlor	1100	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 UJ	0.22 UJ	0.21 UJ
Heptachlor Epoxide	53	ug/kg		0.21 U	1.2 U	0.2 U	0.21 U	0.24 U	0.21 UJ	0.22 UJ	0.21 UJ
Methoxychlor	310000	ug/kg		0.31 UJ	1.8 UJ	0.3 UJ	0.31 UJ	0.36 U	0.31 UJ	0.33 UJ	0.32 UJ
Toxaphene	4400	ug/kg		6.8 U	39 U	6.5 U	6.8 U	7.8 U	6.8 UJ	7.2 UJ	6.9 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT J5	DUT J5	DUT J5	DUT K1	DUT K1	DUT K1	DUT K2	DUT K2	
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5	
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	
4,4'-DDD		ug/kg		1.6 J	0.57 J	0.22 U	0.46 J	0.23 UJ	0.23 UJ	0.99	1.7 J
4,4'-DDE		ug/kg		0.54 J	1.1 J	1 J	0.53 J	0.23 UJ	1.2 J	0.45 J	1.4 J
4,4'-DDT		ug/kg		0.67 J	0.26 J	0.22 UJ	0.4 J	0.23 UJ	0.23 UJ	0.44 J	1.5 J
Total DDTs	46	ug/kg		2.81 J	1.93 J	1.44 J	1.39 J	0.69 UJ	1.66 J	1.88 J	4.6 J
Aldrin	290	ug/kg		0.21 U	0.22 U	0.22 U	0.21 U	0.23 UJ	0.23 UJ	0.2 U	0.24 U
Alpha-hexachlorocyclohexane	770	ug/kg		0.21 U	0.22 U	0.22 U	0.21 U	0.23 UJ	0.23 UJ	0.2 U	0.24 U
Beta-hexachlorocyclohexane	2700	ug/kg		0.32 U	0.33 U	0.32 U	0.31 U	0.34 UJ	0.35 UJ	0.3 U	0.36 U
Chlordane	16000	ug/kg		3.6 UJ	3.6 UJ	3.6 UJ	3.5 UJ	3.8 UJ	3.9 UJ	3.4 UJ	4.1 U
Dieldren	8	ug/kg		0.21 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.23 UJ	0.23 UJ	0.2 UJ	0.67 J
Endosulfan I	3700000	ug/kg		0.21 U	0.22 U	0.22 U	0.21 U	0.23 UJ	0.23 UJ	0.2 U	0.24 U
Endosulfan II	3700000	ug/kg		0.21 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.23 UJ	0.23 UJ	0.2 UJ	0.24 U
Endrin	45	ug/kg		0.21 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.23 UJ	0.23 UJ	0.2 UJ	0.24 U
gamma-hexachlorocyclohexane	5200	ug/kg		0.21 U	0.22 U	0.22 U	0.21 U	0.23 UJ	0.23 UJ	0.2 U	0.24 U
Heptachlor	1100	ug/kg		0.21 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.23 UJ	0.23 UJ	0.2 UJ	0.24 U
Heptachlor Epoxide	53	ug/kg		0.21 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.23 UJ	0.23 UJ	0.2 UJ	0.24 U
Methoxychlor	310000	ug/kg		0.32 UJ	0.33 UJ	0.32 UJ	0.31 UJ	0.34 UJ	0.35 UJ	0.3 UJ	0.36 UJ
Toxaphene	4400	ug/kg		6.9 UJ	7.1 UJ	7 UJ	6.8 UJ	7.5 UJ	7.5 UJ	6.6 UJ	7.9 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

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DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT K2	DUT K3	DUT K3	DUT K3	DUT K4	DUT K4	DUT K4	DUT K5
			Depth (Feet)	10-15	0-5	5-10	10-15	0-5	5-10	10-15
			Date	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/29/2019	7/30/2019
4,4'-DDD		ug/kg	0.24 U	1	2.6 J	2.6 J	0.93	1 J	0.24 U	0.36 J
4,4'-DDE		ug/kg	0.24 U	1.2	2.1 J	1 J	0.38 J	0.68 J	0.24 U	0.21 J
4,4'-DDT		ug/kg	0.24 UJ	0.85 J	0.23 UJ	0.81 J	0.49 J	0.51 J	0.24 UJ	0.76 J
Total DDTs	46	ug/kg	0.72 U	3.05 J	4.93 J	4.41 J	1.8 J	2.19 J	0.72 U	1.33 J
Aldrin	290	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.36 U	0.3 U	0.35 U	0.32 U	0.3 U	0.37 U	0.37 U	0.31 U
Chlordane	16000	ug/kg	4 U	3.3 U	3.9 U	3.6 U	3.4 U	4.1 U	4.1 U	3.5 UJ
Dieldren	8	ug/kg	0.24 U	0.33 J	1 J	0.22 U	0.2 U	0.25 U	0.67 J	0.21 UJ
Endosulfan I	3700000	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 UJ
Endosulfan II	3700000	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
Endrin	45	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
Heptachlor	1100	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 UJ
Heptachlor Epoxide	53	ug/kg	0.24 U	0.2 U	0.23 U	0.22 U	0.2 U	0.25 U	0.24 U	0.21 U
Methoxychlor	310000	ug/kg	0.36 UJ	0.3 UJ	0.35 UJ	0.32 UJ	0.3 UJ	0.37 UJ	0.37 UJ	0.31 UJ
Toxaphene	4400	ug/kg	7.8 UJ	6.4 UJ	7.5 UJ	7 UJ	6.6 UJ	8 UJ	7.9 UJ	6.7 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT K5	DUT K5	DUT L1	DUT L1	DUT L1	DUT L2	DUT L2	
			Depth (Feet)	5-10	10-15	0-5	5-10	10-15	0-5	
			Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	
4,4'-DDD		ug/kg	0.22 U	0.22 U	1 J	0.21 U	0.25 U	2.5 J	0.24 U	0.23 U
4,4'-DDE		ug/kg	0.22 U	0.22 U	1.8	0.21 U	0.25 U	0.51 J	0.24 U	0.23 U
4,4'-DDT		ug/kg	0.22 UJ	0.22 UJ	0.92 J	0.21 UJ	0.25 UJ	0.71 J	0.24 UJ	0.23 UJ
Total DDTs	46	ug/kg	0.66 U	0.66 U	3.72 J	0.63 U	0.75 U	3.72 J	0.72 U	0.69 U
Aldrin	290	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.33 U	0.32 U	0.33 U	0.31 U	0.37 U	0.31 U	0.36 U	0.35 U
Chlordane	16000	ug/kg	3.7 UJ	3.6 UJ	3.7 UJ	3.5 UJ	4.1 UJ	3.5 U	4 U	3.9 U
Dieldren	8	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Endosulfan I	3700000	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Endosulfan II	3700000	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Endrin	45	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
gamma-hexachlorocyclohexane	5200	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Heptachlor	1100	ug/kg	0.22 UJ	0.22 UJ	0.22 UJ	0.21 UJ	0.25 UJ	0.21 U	0.24 U	0.23 U
Heptachlor Epoxide	53	ug/kg	0.22 U	0.22 U	0.22 U	0.21 U	0.25 U	0.21 U	0.24 U	0.23 U
Methoxychlor	310000	ug/kg	0.33 UJ	0.32 UJ	0.33 UJ	0.31 UJ	0.37 UJ	0.31 UJ	0.36 UJ	0.35 UJ
Toxaphene	4400	ug/kg	7.2 UJ	7 UJ	7.1 UJ	6.8 UJ	8 UJ	6.8 UJ	7.7 UJ	7.5 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

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TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical	CC	Units	DUT L3	DUT L3	DUT L3	DUT L4	DUT L4	DUT L4	DUT L5	DUT L5
			Depth (Feet)	0-5	5-10	10-15	0-5	5-10	10-15	0-5
			Date	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/30/2019	7/31/2019
4,4'-DDD		ug/kg	0.56 J	0.25 U	0.25 U	0.35 J	0.21 U	0.24 U	0.22 UJ	0.22 UJ
4,4'-DDE		ug/kg	0.44 J	0.25 U	0.25 U	0.26 J	0.21 U	0.24 U	0.22 UJ	0.22 UJ
4,4'-DDT		ug/kg	0.66 J	0.25 UJ	0.25 UJ	0.32 J	0.21 UJ	0.24 UJ	0.22 UJ	2.2 UJ
Total DDTs	46	ug/kg	1.66 J	0.75 U	0.75 U	0.93 J	0.63 U	0.72 U	0.66 UJ	2.64 UJ
Aldrin	290	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Alpha-hexachlorocyclohexane	770	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.12 J
Beta-hexachlorocyclohexane	2700	ug/kg	0.34 U	0.38 U	0.37 U	0.32 U	0.31 U	0.36 U	0.33 UJ	0.33 UJ
Chlordane	16000	ug/kg	3.7 U	4.2 U	4.1 U	3.5 U	3.4 U	4.1 U	3.7 UJ	3.6 UJ
Dieldren	8	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Endosulfan I	3700000	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Endosulfan II	3700000	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Endrin	45	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
gamma-hexachlorocyclohexane	5200	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Heptachlor	1100	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Heptachlor Epoxide	53	ug/kg	0.22 U	0.25 U	0.25 U	0.21 U	0.21 U	0.24 U	0.22 UJ	0.22 UJ
Methoxychlor	310000	ug/kg	0.34 UJ	0.38 UJ	0.37 UJ	0.32 UJ	0.31 UJ	0.36 UJ	0.33 UJ	0.33 UJ
Toxaphene	4400	ug/kg	7.3 UJ	8.1 UJ	8 UJ	6.9 UJ	6.7 UJ	7.9 UJ	7.1 UJ	940 J

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

μg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 5
DUTRA PESTICIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID		DUT L5	
Depth (Feet)		10-15	
Date		7/31/2019	
Chemical	CC	Units	
4,4'-DDD		ug/kg	0.24 U
4,4'-DDE		ug/kg	0.24 U
4,4'-DDT		ug/kg	0.24 UJ
Total DDTs	46	ug/kg	0.72 U
Aldrin	290	ug/kg	0.24 U
Alpha-hexachlorocyclohexane	770	ug/kg	0.24 U
Beta-hexachlorocyclohexane	2700	ug/kg	0.37 UJ
Chlordane	16000	ug/kg	4.1 U
Dieldren	8	ug/kg	0.24 U
Endosulfan I	3700000	ug/kg	0.24 U
Endosulfan II	3700000	ug/kg	0.24 U
Endrin	45	ug/kg	X
gamma-hexachlorocyclohexane	5200	ug/kg	0.24 U
Heptachlor	1100	ug/kg	0.24 UJ
Heptachlor Epoxide	53	ug/kg	0.24 U
Methoxychlor	310000	ug/kg	0.37 UJ
Toxaphene	4400	ug/kg	7.9 UJ

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014 with EPA Residential RSLs THQ=0.1, Nov 2019

Green - Result exceeds the HPNS CC

µg/kg: micrograms per kilogram

U: Not Detected above the LOD

J: Estimated Value

TABLE 6
DUTRA RADIONUCLIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

	Chemical	Cesium-137	Cobalt-60	Radium-226	Strontium-90
		CC	0.113	0.252	1.633
	Units	pCi/g	pCi/g	pCi/g	pCi/g
Location ID	Depth (Feet)	Date			
DUT A1	0-5	7/17/2019	0.07 U	0.2 U	0.642
DUT A1	5-10	7/17/2019	0.07 U	0.0681	1.17
DUT A1	10-15	7/17/2019	0.07 U	0.2 U	1.1
DUT A2	0-5	7/17/2019	0.07 U	0.2 U	0.687
DUT A2	5-10	7/17/2019	0.07 U	0.0522	0.956
DUT A2	10-15	7/17/2019	0.07 U	0.2 U	0.7 U
DUT A3	0-5	7/17/2019	0.07 U	0.2 U	0.57
DUT A3	5-10	7/17/2019	0.07 U	0.2 U	0.827
DUT A3	10-15	7/17/2019	0.07 U	0.2 U	0.754
DUT A4	0-5	7/17/2019	0.07 U	0.2 U	0.556
DUT A4	5-10	7/17/2019	0.07 U	0.0667	0.754
DUT A4	10-15	7/17/2019	0.07 U	0.2 U	0.808
DUT B1	0-5	7/17/2019	0.07 U	0.2 U	0.648
DUT B1	5-10	7/17/2019	0.07 U	0.2 U	0.664
DUT B1	10-15	7/17/2019	0.07 U	0.2 U	0.77
DUT B2	0-5	7/17/2019	0.07 U	0.2 U	0.966
DUT B2	5-10	7/17/2019	0.07 U	0.2 U	0.779
DUT B2	10-15	7/17/2019	0.07 U	0.2 U	0.868
DUT B3	0-5	7/18/2019	0.07 U	0.2 U	0.671
DUT B3	5-10	7/18/2019	0.07 U	0.2 U	0.548
DUT B3	10-15	7/18/2019	0.07 U	0.2 U	0.604
DUT B4	0-5	7/18/2019	0.07 U	0.2 U	0.554
DUT B4	5-10	7/18/2019	0.07 U	0.2 U	0.5
DUT B4	10-15	7/18/2019	0.07 U	0.109	0.951
DUT B5	0-5	7/18/2019	0.07 U	0.2 U	0.5
DUT B5	5-10	7/18/2019	0.07 U	0.2 U	0.7 U
DUT B5	10-15	7/18/2019	0.07 U	0.2 U	0.485
DUT C1	0-5	7/18/2019	0.07 U	0.2 U	0.711
DUT C1	5-10	7/18/2019	0.07 U	0.2 U	0.961
DUT C1	10-15	7/18/2019	0.07 U	0.2 U	0.21
DUT C2	0-5	7/18/2019	0.07 U	0.2 U	0.994
DUT C2	5-10	7/18/2019	0.07 U	0.2 U	0.8
DUT C2	10-15	7/18/2019	0.07 U	0.0676	0.634
DUT C2	10-15	7/18/2019	0.07 U	0.0711	1.09
DUT C3	0-5	7/19/2019	0.07 U	0.2 U	0.837
DUT C3	5-10	7/19/2019	0.07 U	0.2 U	0.518
DUT C3	10-15	7/19/2019	0.07 U	0.2 U	0.756
DUT C4	0-5	7/19/2019	0.07 U	0.2 U	0.726
DUT C4	5-10	7/19/2019	0.07 U	0.2 U	0.617
DUT C4	10-15	7/19/2019	0.07 U	0.2 U	0.718
DUT C5	0-5	7/19/2019	0.07 U	0.2 U	0.646
DUT C5	5-10	7/19/2019	0.07 U	0.2 U	0.847
DUT C5	10-15	7/19/2019	0.07 U	0.2 U	0.763
DUT D1	0-5	7/19/2019	0.07 U	0.2 U	0.621
DUT D1	5-10	7/19/2019	0.07 U	0.2 U	0.652
DUT D1	10-15	7/19/2019	0.07 U	0.2 U	0.931
DUT D2	0-5	7/19/2019	0.07 U	0.2 U	0.716
DUT D2	5-10	7/19/2019	0.07 U	0.2 U	0.581
DUT D2	10-15	7/19/2019	0.07 U	0.081	0.7 U
DUT D3	0-5	7/19/2019	0.07 U	0.2 U	0.452
DUT D3	5-10	7/19/2019	0.07 U	0.2 U	0.412
DUT D3	10-15	7/19/2019	0.07 U	0.2 U	0.875
DUT D4	0-5	7/22/2019	0.07 U	0.2 U	0.574
DUT D4	5-10	7/22/2019	0.07 U	0.2 U	0.903
DUT D4	10-15	7/22/2019	0.07 U	0.2 U	0.7 U
DUT D5	0-5	7/22/2019	0.07 U	0.0339	0.566
DUT D5	5-10	7/22/2019	0.07 U	0.2 U	0.735
DUT D5	10-15	7/22/2019	0.07 U	0.2 U	0.807

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

pCi/g - Average Picocuries Per Gram

U: Not Detected above the LOD

J: Estimated Value

TABLE 6
DUTRA RADIONUCLIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

	Chemical	Cesium-137	Cobalt-60	Radium-226	Strontium-90
		CC	0.113	0.252	1.633
	Units	pCi/g	pCi/g	pCi/g	pCi/g
Location ID	Depth (Feet)	Date			
DUT E1	0-5	7/31/2019	0.07 U	0.2 U	0.623
DUT E1	5-10	7/31/2019	0.07 U	0.2 U	0.721
DUT E1	10-15	7/31/2019	0.07 U	0.2 U	0.906
DUT E2	0-5	7/31/2019	0.07 U	0.2 U	0.276
DUT E2	5-10	7/31/2019	0.07 U	0.2 U	1.06
DUT E2	10-15	7/31/2019	0.07 U	0.2 U	0.72
DUT E3	0-5	7/22/2019	0.07 U	0.2 U	0.574
DUT E3	5-10	7/22/2019	0.07 U	0.2 U	0.74
DUT E3	10-15	7/22/2019	0.07 U	0.095	0.751
DUT E4	0-5	7/22/2019	0.07 U	0.2 U	0.644
DUT E4	5-10	7/22/2019	0.07 U	0.2 U	0.831
DUT E4	10-15	7/22/2019	0.07 U	0.2 U	0.761
DUT E5	0-5	7/23/2019	0.07 U	0.2 U	0.763
DUT E5	5-10	7/23/2019	0.07 U	0.2 U	0.729
DUT E5	10-15	7/23/2019	0.07 U	0.2 U	0.847
DUT F1	0-5	7/23/2019	0.07 U	0.2 U	0.664
DUT F1	5-10	7/23/2019	0.07 U	0.2 U	0.77
DUT F1	10-15	7/23/2019	0.07 U	0.2 U	0.752
DUT F2	0-5	7/23/2019	0.07 U	0.2 U	0.861
DUT F2	5-10	7/23/2019	0.07 U	0.2 U	0.728
DUT F2	10-15	7/23/2019	0.07 U	0.0659	1.27
DUT F3	0-5	7/23/2019	0.07 U	0.2 U	0.686
DUT F3	5-10	7/23/2019	0.07 U	0.2 U	0.89
DUT F3	10-15	7/23/2019	0.07 U	0.0914	0.763
DUT F4	0-5	7/23/2019	0.07 U	0.2 U	0.506
DUT F4	5-10	7/23/2019	0.07 U	0.2 U	0.539
DUT F4	10-15	7/23/2019	0.07 U	0.2 U	0.946
DUT F5	0-5	7/23/2019	0.07 U	0.2 U	0.205
DUT F5	5-10	7/23/2019	0.07 U	0.2 U	0.72
DUT F5	10-15	7/23/2019	0.07 U	0.2 U	0.793
DUT G1	0-5	7/23/2019	0.07 U	0.0784	0.64
DUT G1	5-10	7/23/2019	0.07 U	0.2 U	0.903
DUT G1	10-15	7/23/2019	0.07 U	0.2 U	0.966
DUT G2	0-5	7/24/2019	0.07 U	0.2 U	0.628
DUT G2	5-10	7/24/2019	0.07 U	0.2 U	0.923
DUT G2	10-15	7/24/2019	0.07 U	0.2 U	0.694
DUT G3	0-5	7/24/2019	0.07 U	0.0639	0.691
DUT G3	5-10	7/24/2019	0.07 U	0.2 U	1.09
DUT G3	10-15	7/24/2019	0.07 U	0.2 U	0.981
DUT G4	0-5	7/24/2019	0.07 U	0.2 U	0.404
DUT G4	5-10	7/24/2019	0.07 U	0.2 U	0.7 U
DUT G4	10-15	7/24/2019	0.07 U	0.2 U	1.12
DUT G5	0-5	7/24/2019	0.07 U	0.2 U	0.569
DUT G5	5-10	7/24/2019	0.07 U	0.2 U	0.961
DUT G5	10-15	7/24/2019	0.07 U	0.2 U	0.872
DUT H1	0-5	7/24/2019	0.07 U	0.2 U	1.47
DUT H1	5-10	7/24/2019	0.07 U	0.2 U	0.966
DUT H1	10-15	7/24/2019	0.07 U	0.0474	0.949
DUT H2	0-5	7/24/2019	0.07 U	0.2 U	0.624
DUT H2	5-10	7/24/2019	0.07 U	0.2 U	0.61
DUT H2	10-15	7/24/2019	0.07 U	0.2 U	1.1
DUT H3	0-5	7/25/2019	0.07 U	0.2 U	0.547
DUT H3	5-10	7/25/2019	0.07 U	0.2 U	0.926
DUT H3	10-15	7/25/2019	0.07 U	0.2 U	0.87
DUT H4	0-5	7/25/2019	0.07 U	0.2 U	0.699
DUT H4	5-10	7/25/2019	0.07 U	0.2 U	0.936
DUT H4	10-15	7/25/2019	0.146	0.2 U	1.23
					0.33 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

pCi/g - Average Picocuries Per Gram

U: Not Detected above the LOD

J: Estimated Value

TABLE 6
DUTRA RADIONUCLIDE RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

	Chemical	Cesium-137	Cobalt-60	Radium-226	Strontium-90
		CC	0.113	0.252	1.633
	Units	pCi/g	pCi/g	pCi/g	pCi/g
Location ID	Depth (Feet)	Date			
DUT H5	0-5	7/25/2019	0.07 U	0.2 U	0.462
DUT H5	5-10	7/25/2019	0.07 U	0.2 U	0.585
DUT H5	10-15	7/25/2019	0.07 U	0.2 U	0.924
DUT I1	0-5	7/25/2019	0.07 U	0.2 U	0.52
DUT I1	5-10	7/25/2019	0.07 U	0.2 U	0.68
DUT I1	10-15	7/25/2019	0.07 U	0.2 U	0.671
DUT I2	0-5	7/25/2019	0.07 U	0.2 U	0.678
DUT I2	5-10	7/25/2019	0.07 U	0.0506	0.826
DUT I2	10-15	7/25/2019	0.07 U	0.2 U	0.72
DUT I3	0-5	7/25/2019	0.07 U	0.2 U	0.99
DUT I3	5-10	7/25/2019	0.07 U	0.2 U	0.817
DUT I3	10-15	7/25/2019	0.07 U	0.2 U	1.07
DUT I4	0-5	7/26/2019	0.07 U	0.2 U	0.629
DUT I4	5-10	7/26/2019	0.07 U	0.2 U	0.767
DUT I4	10-15	7/26/2019	0.07 U	0.0767	0.723
DUT I5	0-5	7/26/2019	0.07 U	0.2 U	0.672
DUT I5	5-10	7/26/2019	0.07 U	0.033	0.733
DUT I5	10-15	7/26/2019	0.07 U	0.2 U	0.822
DUT J1	0-5	7/26/2019	0.07 U	0.2 U	0.759
DUT J1	5-10	7/26/2019	0.07 U	0.2 U	0.868
DUT J1	10-15	7/26/2019	0.07 U	0.2 U	1.11
DUT J2	0-5	7/26/2019	0.07 U	0.2 U	0.89
DUT J2	5-10	7/26/2019	0.07 U	0.2 U	0.809
DUT J2	10-15	7/26/2019	0.07 U	0.2 U	0.657
DUT J3	0-5	7/26/2019	0.07 U	0.2 U	0.665
DUT J3	5-10	7/26/2019	0.07 U	0.2 U	0.79
DUT J3	10-15	7/26/2019	0.07 U	0.2 U	0.699
DUT J4	0-5	7/29/2019	0.07 U	0.2 U	0.756
DUT J4	5-10	7/29/2019	0.07 U	0.2 U	0.631
DUT J4	10-15	7/29/2019	0.07 U	0.2 U	0.7 U
DUT J5	0-5	7/29/2019	0.07 U	0.2 U	0.678
DUT J5	5-10	7/29/2019	0.07 U	0.2 U	0.578
DUT J5	10-15	7/29/2019	0.07 U	0.2 U	0.809
DUT K1	0-5	7/29/2019	0.07 U	0.2 U	0.669
DUT K1	5-10	7/29/2019	0.07 U	0.0515	1.13
DUT K1	10-15	7/29/2019	0.07 U	0.048	1
DUT K2	0-5	7/29/2019	0.07 U	0.2 U	0.9
DUT K2	5-10	7/29/2019	0.07 U	0.2 U	0.902
DUT K2	10-15	7/29/2019	0.07 U	0.2 U	1.01
DUT K3	0-5	7/29/2019	0.07 U	0.2 U	0.626
DUT K3	5-10	7/29/2019	0.07 U	0.2 U	0.743
DUT K3	10-15	7/29/2019	0.07 U	0.0513	0.972
DUT K4	0-5	7/29/2019	0.07 U	0.2 U	0.763
DUT K4	5-10	7/29/2019	0.07 U	0.2 U	0.634
DUT K4	10-15	7/29/2019	0.07 U	0.2 U	1.19
DUT K5	0-5	7/30/2019	0.07 U	0.2 U	0.7 U
DUT K5	5-10	7/30/2019	0.07 U	0.2 U	0.7 U
DUT K5	10-15	7/30/2019	0.07 U	0.0415	0.7 U
DUT L1	0-5	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L1	5-10	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L1	10-15	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L2	0-5	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L2	5-10	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L2	10-15	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L3	0-5	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L3	5-10	7/30/2019	0.07 U	0.2 U	0.7 U
DUT L3	10-15	7/30/2019	0.07 U	0.2 U	0.7 U

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

pCi/g - Average Picocuries Per Gram

U: Not Detected above the LOD

J: Estimated Value

TABLE 6
 DUTRA RADIONUCLIDE RESULTS
 IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
 PARCEL E2, PHASE 3 REMEDIAL ACTION
 HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Chemical			Cesium-137	Cobalt-60	Radium-226	Strontium-90
			CC	0.113	0.252	1.633
			Units	pCi/g	pCi/g	pCi/g
Location ID	Depth (Feet)	Date				
DUT L4	0-5	7/30/2019		0.07 U	0.2 U	0.7 U
DUT L4	5-10	7/30/2019		0.07 U	0.0637	0.7 U
DUT L4	10-15	7/30/2019		0.07 U	0.2 U	0.7 U
DUT L5	0-5	7/31/2019		0.07 U	0.2 U	1.17
DUT L5	5-10	7/31/2019		0.07 U	0.2 U	0.794
DUT L5	10-15	7/31/2019		0.07 U	0.2 U	0.695

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

pCi/g - Average Picocuries Per Gram

U: Not Detected above the LOD

J: Estimated Value

TABLE 7
DUTRA TOTAL PETROLEUM HYDROCARBON RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	Gasoline Range Organics	Diesel Range Organics	Motor Oil Range Organics
			CC	100	100	500
			Units	mg/kg	mg/kg	mg/kg
DUT A1	0-5	7/17/2019	0.25 U		1.6 J	5.4 J
DUT A1	5-10	7/17/2019	0.26 U		4.8	17 J
DUT A1	10-15	7/17/2019	0.34 U		15	40
DUT A2	0-5	7/17/2019	0.24 U		1.1 J	12 U
DUT A2	5-10	7/17/2019	0.29 U		3.3	9.6 J
DUT A2	10-15	7/17/2019	0.26 U		9.4	26
DUT A3	0-5	7/17/2019	0.27 U		1.8 J	6.1 J
DUT A3	5-10	7/17/2019	X		5.2	19 J
DUT A3	10-15	7/17/2019	6.3 UJ		5.9	24
DUT A4	0-5	7/17/2019	5.6 UJ		1.5 J	11 U
DUT A4	5-10	7/17/2019	5.1 UJ		6.4	22 J
DUT A4	10-15	7/17/2019	6.3 UJ		8	23 J
DUT B1	0-5	7/17/2019	5.8 UJ		2.4	8 J
DUT B1	5-10	7/17/2019	6.1 UJ		5.5	16 J
DUT B1	10-15	7/17/2019	6.6 UJ		11	31
DUT B2	0-5	7/17/2019	5.5 U		4.1	16 J
DUT B2	5-10	7/17/2019	5.6 U		6.1	19 J
DUT B2	10-15	7/17/2019	6.1 U		6.3	18 J
DUT B3	0-5	7/18/2019	0.27 U		1.1 U	9.4 J
DUT B3	5-10	7/18/2019	0.23 UJ		3.3	14 J
DUT B3	10-15	7/18/2019	0.25 U		1.1 U	9.6 J
DUT B4	0-5	7/18/2019	0.25 UJ		1 U	9.1 J
DUT B4	5-10	7/18/2019	0.22 UJ		1.1 U	16 J
DUT B4	10-15	7/18/2019	0.27 U		7.2	26
DUT B5	0-5	7/18/2019	X		1 U	4 J
DUT B5	5-10	7/18/2019	0.23 UJ		1.1 U	5.1 J
DUT B5	10-15	7/18/2019	0.24 U		4.7	19 J
DUT C1	0-5	7/18/2019	0.26 U		1 U	7.4 J
DUT C1	5-10	7/18/2019	0.28 U		5.6	60
DUT C1	10-15	7/18/2019	X		13	41
DUT C2	0-5	7/18/2019	X		1.1 U	9.1 J
DUT C2	5-10	7/18/2019	X		3.3	13 J
DUT C2	10-15	7/18/2019	0.25 U		6.3	23
DUT C3	0-5	7/19/2019	0.27 U		2.3	8.7 J
DUT C3	5-10	7/19/2019	0.24 UJ		1.7 J	6.8 J
DUT C3	10-15	7/19/2019	0.27 U		6.7	25
DUT C4	0-5	7/19/2019	0.3 U		8.3	33
DUT C4	5-10	7/19/2019	0.3 U		8.4	33
DUT C4	10-15	7/19/2019	X		4.4	18 J
DUT C5	0-5	7/19/2019	0.24 U		1.4 J	7.1 J
DUT C5	5-10	7/19/2019	X		16	63
DUT C5	10-15	7/19/2019	0.23 U		8.2	32
DUT D1	0-5	7/19/2019	0.24 U		3.1	14 J
DUT D1	5-10	7/19/2019	0.23 U		3.9	17 J
DUT D1	10-15	7/19/2019	0.25 U		8	30
DUT D2	0-5	7/19/2019	0.23 U		3.6	17 J
DUT D2	5-10	7/19/2019	0.25 U		1.7 J	8.3 J
DUT D2	10-15	7/19/2019	0.29 U		12	40
DUT D3	0-5	7/19/2019	0.24 U		1.4 J	7.1 J
DUT D3	5-10	7/19/2019	0.26 U		4.3	18 J
DUT D3	10-15	7/19/2019	0.27 U		18	63
DUT D4	0-5	7/22/2019	0.3 U		1.9 J	7.1 J
DUT D4	5-10	7/22/2019	0.27 U		5.9	20 J
DUT D4	10-15	7/22/2019	0.28 U		5.6	21 J

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Green - Result exceeds the HPNS CC

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TABLE 7
DUTRA TOTAL PETROLEUM HYDROCARBON RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	Gasoline Range Organics	Diesel Range Organics	Motor Oil Range Organics
			CC	100	100	500
			Units	mg/kg	mg/kg	mg/kg
DUT D5	0-5	7/22/2019	0.24 U	3	10 J	
DUT D5	5-10	7/22/2019	0.57 U	16	41	
DUT D5	10-15	7/22/2019	0.26 U	5.1	16 J	
DUT E1	0-5	7/31/2019	16	1.4 J	4.5 J	
DUT E1	5-10	7/31/2019	3.4 J	7.7	26	
DUT E1	10-15	7/31/2019	3 U	15	42	
DUT E2	0-5	7/31/2019	11	3.4	12 J	
DUT E2	5-10	7/31/2019	130	4.1	13 J	
DUT E2	10-15	7/31/2019	8.3	4.3	14 J	
DUT E3	0-5	7/22/2019	0.25 U	2.2	7.6 J	
DUT E3	5-10	7/22/2019	0.28 U	6.9	23 J	
DUT E3	10-15	7/22/2019	0.23 U	8.3	25	
DUT E4	0-5	7/22/2019	0.23 U	3.3	12 J	
DUT E4	5-10	7/22/2019	0.25 U	5.7	16 J	
DUT E4	10-15	7/22/2019	0.23 U	8.3	21 J	
DUT E5	0-5	7/23/2019	0.22 U	1.7 J	6.5 J	
DUT E5	5-10	7/23/2019	0.26 U	7.1	20 J	
DUT E5	10-15	7/23/2019	0.25 U	9	24	
DUT F1	0-5	7/23/2019	0.23 U	1.6 J	5.2 J	
DUT F1	5-10	7/23/2019	0.23 U	2.2	6.9 J	
DUT F1	10-15	7/23/2019	0.24 U	7.5	18 J	
DUT F2	0-5	7/23/2019	0.22 U	1.9 J	5.7 J	
DUT F2	5-10	7/23/2019	0.25 U	5.8	19 J	
DUT F2	10-15	7/23/2019	0.25 U	5.2	14 J	
DUT F3	0-5	7/23/2019	0.22 U	2.4	6.7 J	
DUT F3	5-10	7/23/2019	X	4.2	13 J	
DUT F3	10-15	7/23/2019	0.28 U	7.2	19 J	
DUT F4	0-5	7/23/2019	0.22 U	1.9 J	5.8 J	
DUT F4	5-10	7/23/2019	X	3.7	12 J	
DUT F4	10-15	7/23/2019	0.21 U	4.4	12 J	
DUT F5	0-5	7/23/2019	0.21 UJ	1.2 J	4 J	
DUT F5	5-10	7/23/2019	0.21 UJ	2.5	9.2 J	
DUT F5	10-15	7/23/2019	0.21 UJ	3.7	12 J	
DUT G1	0-5	7/23/2019	0.23 UJ	1.4 J	11 U	
DUT G1	5-10	7/23/2019	0.27 UJ	7.2	19 J	
DUT G1	10-15	7/23/2019	0.25 UJ	13	44	
DUT G2	0-5	7/24/2019	27	13	40	
DUT G2	5-10	7/24/2019	15 J	2.9	11 J	
DUT G2	10-15	7/24/2019	6.5 J	2.4 J	9 J	
DUT G3	0-5	7/24/2019	1.4 J	4.5	23	
DUT G3	5-10	7/24/2019	10	14	51	
DUT G3	10-15	7/24/2019	2.6 J	9.3	38	
DUT G4	0-5	7/24/2019	8.8	2.5 J	10 J	
DUT G4	5-10	7/24/2019	2.3 J	13	38	
DUT G4	10-15	7/24/2019	2.2 J	22	58	
DUT G5	0-5	7/24/2019	2 J	0.85 J	10 U	
DUT G5	5-10	7/24/2019	1.3 J	4.5	15 J	
DUT G5	10-15	7/24/2019	1.6 J	18	45	
DUT H1	0-5	7/24/2019	3.3 J	14	38	
DUT H1	5-10	7/24/2019	1.5 J	20	44	
DUT H1	10-15	7/24/2019	2 J	13	39	
DUT H2	0-5	7/24/2019	2.1 U	1.8 J	5.9 J	
DUT H2	5-10	7/24/2019	2.5 J	11	30	
DUT H2	10-15	7/24/2019	2.7 U	24	52	

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TABLE 7
DUTRA TOTAL PETROLEUM HYDROCARBON RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	Gasoline Range Organics	Diesel Range Organics	Motor Oil Range Organics
			CC	100	100	500
			Units	mg/kg	mg/kg	mg/kg
DUT H3	0-5	7/25/2019	160 J		1.6 J	14 U
DUT H3	5-10	7/25/2019	2.7 UJ		4.3	12 J
DUT H3	10-15	7/25/2019	2.9 UJ		22	49
DUT H4	0-5	7/25/2019	2.2 U		6.8	23
DUT H4	5-10	7/25/2019	2.2 U		3.4	15 J
DUT H4	10-15	7/25/2019	1.7 U		5.9	23
DUT H5	0-5	7/25/2019	2.1 U		1.3 J	4.8 J
DUT H5	5-10	7/25/2019	2.1 U		3.5	11 J
DUT H5	10-15	7/25/2019	2.9 U		9.9	24 J
DUT I1	0-5	7/25/2019	2.2 U		3	9.4 J
DUT I1	5-10	7/25/2019	2.7 U		17	51
DUT I1	10-15	7/25/2019	3.5 U		16	40
DUT I2	0-5	7/25/2019	2.1 U		3.3	18 J
DUT I2	5-10	7/25/2019	2.6 U		14	54
DUT I2	10-15	7/25/2019	2.8 U		18	55
DUT I3	0-5	7/25/2019	2.6 U		6.6	25
DUT I3	5-10	7/25/2019	2.6 U		16	43
DUT I3	10-15	7/25/2019	3.3 U		22	57
DUT I4	0-5	7/26/2019	2.3 U		13	49
DUT I4	5-10	7/26/2019	1.5 J		12	38
DUT I4	10-15	7/26/2019	2.7 J		17	47
DUT I5	0-5	7/26/2019	3 J		3	11 J
DUT I5	5-10	7/26/2019	2.6 J		12	33
DUT I5	10-15	7/26/2019	2.6 J		9.3	27
DUT J1	0-5	7/26/2019	2.6 U		3.6	12 J
DUT J1	5-10	7/26/2019	1.2 J		9.2	35
DUT J1	10-15	7/26/2019	3.9 J		25	61
DUT J2	0-5	7/26/2019	1.3 J		2.1 J	7 J
DUT J2	5-10	7/26/2019	1.2 J		2.9	11 J
DUT J2	10-15	7/26/2019	1.8 J		23	50
DUT J3	0-5	7/26/2019	1.9 J		2.4	10 J
DUT J3	5-10	7/26/2019	2.3 U		3.9	14 J
DUT J3	10-15	7/26/2019	2.4 J		13	33
DUT J4	0-5	7/29/2019	5.6 J		7.4	27
DUT J4	5-10	7/29/2019	2.1 J		6.9	20 J
DUT J4	10-15	7/29/2019	2 J		5.9	16 J
DUT J5	0-5	7/29/2019	2.3 U		4.2	17 J
DUT J5	5-10	7/29/2019	2.4 U		14	33
DUT J5	10-15	7/29/2019	2.5 U		11	27
DUT K1	0-5	7/29/2019	1.5 J		4.4	27
DUT K1	5-10	7/29/2019	2.1 J		8.6	24
DUT K1	10-15	7/29/2019	1.4 J		17	39
DUT K2	0-5	7/29/2019	3.2 J		3	8.8 J
DUT K2	5-10	7/29/2019	2.5 U		8.2	20 J
DUT K2	10-15	7/29/2019	5.5 J		9.8	21 J
DUT K3	0-5	7/29/2019	2.2 U		2.6	10 J
DUT K3	5-10	7/29/2019	2.6 U		11	27
DUT K3	10-15	7/29/2019	1.8 J		5.8	16 J
DUT K4	0-5	7/29/2019	2.2 U		2.4	6.7 J
DUT K4	5-10	7/29/2019	2.6 U		2.9	8.1 J
DUT K4	10-15	7/29/2019	23		15	30
DUT K5	0-5	7/30/2019	15 J		2.6	14 J
DUT K5	5-10	7/30/2019	18		12	37
DUT K5	10-15	7/30/2019	1.3 J		15	41

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TABLE 7
DUTRA TOTAL PETROLEUM HYDROCARBON RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	Gasoline Range Organics	Diesel Range Organics	Motor Oil Range Organics
			CC	100	100	500
			Units	mg/kg	mg/kg	mg/kg
DUT L1	0-5	7/30/2019		3.8 J	3.1	17 J
DUT L1	5-10	7/30/2019		2.8 J	7.5	25
DUT L1	10-15	7/30/2019		6 J	14	38
DUT L2	0-5	7/30/2019		2.4 U	4.6	15 J
DUT L2	5-10	7/30/2019		5.7 J	8.3	28
DUT L2	10-15	7/30/2019		6.3 J	12	34
DUT L3	0-5	7/30/2019		2.4 U	7.4	24
DUT L3	5-10	7/30/2019		16 J	13	37
DUT L3	10-15	7/30/2019		2.6 U	8.6	24 J
DUT L4	0-5	7/30/2019		24 J	5.4	18 J
DUT L4	5-10	7/30/2019		1.6 J	2.2	5.9 J
DUT L4	10-15	7/30/2019		2.7 U	12	30
DUT L5	0-5	7/31/2019		66 J-	13	48
DUT L5	5-10	7/31/2019		18 J-	4	15 J
DUT L5	10-15	7/31/2019		6.3 J	11	26

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TABLE 8
DUTRA pH RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	pH
			CC	< 6.5 or > 8.5
			Units	su
DUT A1	0-5	7/17/2019	7.4	
DUT A1	5-10	7/17/2019	6.5	
DUT A1	10-15	7/17/2019	6.1	
DUT A2	0-5	7/17/2019	7.6	
DUT A2	5-10	7/17/2019	7	
DUT A2	10-15	7/17/2019	7	
DUT A3	0-5	7/17/2019	7.5	
DUT A3	5-10	7/17/2019	6.1	
DUT A3	10-15	7/17/2019	6.8	
DUT A4	0-5	7/17/2019	6.8	
DUT A4	5-10	7/17/2019	6.7	
DUT A4	10-15	7/17/2019	6	
DUT B1	0-5	7/17/2019	6.5	
DUT B1	5-10	7/17/2019	6.2	
DUT B1	10-15	7/17/2019	5.6	
DUT B2	0-5	7/17/2019	6.4	
DUT B2	5-10	7/17/2019	6	
DUT B2	10-15	7/17/2019	5.9	
DUT B3	0-5	7/18/2019	6.6	
DUT B3	5-10	7/18/2019	6.5	
DUT B3	10-15	7/18/2019	6.4	
DUT B4	0-5	7/18/2019	7.1	
DUT B4	5-10	7/18/2019	6.6	
DUT B4	10-15	7/18/2019	5.9	
DUT B5	0-5	7/18/2019	6.5	
DUT B5	5-10	7/18/2019	6.5	
DUT B5	10-15	7/18/2019	6.4	
DUT C1	0-5	7/18/2019	6.5	
DUT C1	5-10	7/18/2019	6	
DUT C1	10-15	7/18/2019	5.9	
DUT C2	0-5	7/18/2019	6.6	
DUT C2	5-10	7/18/2019	6.3	
DUT C2	10-15	7/18/2019	6	
DUT C3	0-5	7/19/2019	6.9	
DUT C3	5-10	7/19/2019	6.6	
DUT C3	10-15	7/19/2019	6	
DUT C4	0-5	7/19/2019	6.4	
DUT C4	5-10	7/19/2019	6	
DUT C4	10-15	7/19/2019	6.5	
DUT C5	0-5	7/19/2019	6.8	
DUT C5	5-10	7/19/2019	5.6	
DUT C5	10-15	7/19/2019	6.2	
DUT D1	0-5	7/19/2019	6.4	
DUT D1	5-10	7/19/2019	6.6	
DUT D1	10-15	7/19/2019	6.3	
DUT D2	0-5	7/19/2019	7.2	
DUT D2	5-10	7/19/2019	6.7	
DUT D2	10-15	7/19/2019	6.1	
DUT D3	0-5	7/19/2019	6.8	

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su - Standard Units

TABLE 8
DUTRA pH RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	pH
			CC	< 6.5 or > 8.5
			Units	su
DUT D3	5-10	7/19/2019	6.6	
DUT D3	10-15	7/19/2019	6	
DUT D4	0-5	7/22/2019	7.2	
DUT D4	5-10	7/22/2019	6.2	
DUT D4	10-15	7/22/2019	6.5	
DUT D5	0-5	7/22/2019	7.1	
DUT D5	5-10	7/22/2019	5.6	
DUT D5	10-15	7/22/2019	6.4	
DUT E1	0-5	7/31/2019	6.3	
DUT E1	5-10	7/31/2019	5.6	
DUT E1	10-15	7/31/2019	5.7	
DUT E2	0-5	7/31/2019	6.6	
DUT E2	5-10	7/31/2019	5.7	
DUT E2	10-15	7/31/2019	6.2	
DUT E3	0-5	7/22/2019	6.7	
DUT E3	5-10	7/22/2019	6.2	
DUT E3	10-15	7/22/2019	6.4	
DUT E4	0-5	7/22/2019	6.9	
DUT E4	5-10	7/22/2019	6.5	
DUT E4	10-15	7/22/2019	6.3	
DUT E5	0-5	7/23/2019	6.9	
DUT E5	5-10	7/23/2019	6.1	
DUT E5	10-15	7/23/2019	6.4	
DUT F1	0-5	7/23/2019	7.1	
DUT F1	5-10	7/23/2019	6.9	
DUT F1	10-15	7/23/2019	6.3	
DUT F2	0-5	7/23/2019	7.3	
DUT F2	5-10	7/23/2019	6	
DUT F2	10-15	7/23/2019	6.7	
DUT F3	0-5	7/23/2019	6.7	
DUT F3	5-10	7/23/2019	6.5	
DUT F3	10-15	7/23/2019	6.2	
DUT F4	0-5	7/23/2019	7.2	
DUT F4	5-10	7/23/2019	6.9	
DUT F4	10-15	7/23/2019	6.6	
DUT F5	0-5	7/23/2019	7.2	
DUT F5	5-10	7/23/2019	7	
DUT F5	10-15	7/23/2019	6.7	
DUT G1	0-5	7/23/2019	7	
DUT G1	5-10	7/23/2019	6	
DUT G1	10-15	7/23/2019	6.2	
DUT G2	0-5	7/24/2019	7.1	
DUT G2	5-10	7/24/2019	6.9	
DUT G2	10-15	7/24/2019	6.1	
DUT G3	0-5	7/24/2019	7	
DUT G3	5-10	7/24/2019	5.7	
DUT G3	10-15	7/24/2019	6.1	
DUT G4	0-5	7/24/2019	7.4	
DUT G4	5-10	7/24/2019	6.1	

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TABLE 8
DUTRA pH RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	pH
			CC	< 6.5 or > 8.5
			Units	su
DUT G4	10-15	7/24/2019		6
DUT G5	0-5	7/24/2019		6.8
DUT G5	5-10	7/24/2019		5.9
DUT G5	10-15	7/24/2019		6
DUT H1	0-5	7/24/2019		6.1
DUT H1	5-10	7/24/2019		6.4
DUT H1	10-15	7/24/2019		5.9
DUT H2	0-5	7/24/2019		7.9
DUT H2	5-10	7/24/2019		6.1
DUT H2	10-15	7/24/2019		6.2
DUT H3	0-5	7/25/2019		6.8
DUT H3	5-10	7/25/2019		6.1
DUT H3	10-15	7/25/2019		5.8
DUT H4	0-5	7/25/2019		6.2
DUT H4	5-10	7/25/2019		7
DUT H4	10-15	7/25/2019		6.4
DUT H5	0-5	7/25/2019		6.9
DUT H5	5-10	7/25/2019		6.4
DUT H5	10-15	7/25/2019		6.1
DUT I1	0-5	7/25/2019		6.7
DUT I1	5-10	7/25/2019		5.9
DUT I1	10-15	7/25/2019		5.7
DUT I2	0-5	7/25/2019		7.6
DUT I2	5-10	7/25/2019		5.8
DUT I2	10-15	7/25/2019		5.9
DUT I3	0-5	7/25/2019		6.1
DUT I3	5-10	7/25/2019		6.2
DUT I3	10-15	7/25/2019		6.2
DUT I4	0-5	7/26/2019		5.4
DUT I4	5-10	7/26/2019		6.2
DUT I4	10-15	7/26/2019		6.3
DUT I5	0-5	7/26/2019		8
DUT I5	5-10	7/26/2019		6.6
DUT I5	10-15	7/26/2019		6.3
DUT J1	0-5	7/26/2019		7.3
DUT J1	5-10	7/26/2019		6.4
DUT J1	10-15	7/26/2019		5.9
DUT J2	0-5	7/26/2019		6.9
DUT J2	5-10	7/26/2019		6.7
DUT J2	10-15	7/26/2019		6
DUT J3	0-5	7/26/2019		7.2
DUT J3	5-10	7/26/2019		6.6
DUT J3	10-15	7/26/2019		6.4
DUT J4	0-5	7/29/2019		5.9
DUT J4	5-10	7/29/2019		6.1
DUT J4	10-15	7/29/2019		6.2
DUT J5	0-5	7/29/2019		6.9
DUT J5	5-10	7/29/2019		6.3
DUT J5	10-15	7/29/2019		6.1

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

su - Standard Units

TABLE 8
DUTRA pH RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	Chemical	pH
			CC	< 6.5 or > 8.5
			Units	su
DUT K1	0-5	7/29/2019	6.8	
DUT K1	5-10	7/29/2019	5.8	
DUT K1	10-15	7/29/2019	5.8	
DUT K2	0-5	7/29/2019	7.3	
DUT K2	5-10	7/29/2019	6.2	
DUT K2	10-15	7/29/2019	6.1	
DUT K3	0-5	7/29/2019	7	
DUT K3	5-10	7/29/2019	6.1	
DUT K3	10-15	7/29/2019	6.2	
DUT K4	0-5	7/29/2019	7.6	
DUT K4	5-10	7/29/2019	6.5	
DUT K4	10-15	7/29/2019	5.9	
DUT K5	0-5	7/30/2019	7.9	
DUT K5	5-10	7/30/2019	6.2	
DUT K5	10-15	7/30/2019	6.1	
DUT L1	0-5	7/30/2019	6.9	
DUT L1	5-10	7/30/2019	5.9	
DUT L1	10-15	7/30/2019	5.9	
DUT L2	0-5	7/30/2019	6.7	
DUT L2	5-10	7/30/2019	5.9	
DUT L2	10-15	7/30/2019	6.1	
DUT L3	0-5	7/30/2019	5.8	
DUT L3	5-10	7/30/2019	5.8	
DUT L3	10-15	7/30/2019	6.1	
DUT L4	0-5	7/30/2019	6.6	
DUT L4	5-10	7/30/2019	6.3	
DUT L4	10-15	7/30/2019	6	
DUT L5	0-5	7/31/2019	6.2	
DUT L5	5-10	7/31/2019	6.4	
DUT L5	10-15	7/31/2019	6	

CC - Comparison Criterion, HPNS Parcel E RD, Aug 2014

Green - Result exceeds the HPNS CC

su - Standard Units

TABLE 9
DUTRA ASBESTOS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	CC	Asbestos Type	Amount of Asbestos	Non-Asbestos Nonfibrous Amount	Non-Asbestos Fibrous Amount
DUT A1	0-5	07/17/2019	0.25%	None	0.00%	100%	0
DUT A1	5-10	07/17/2019	0.25%	None	0.00%	100%	0
DUT A1	10-15	07/17/2019	0.25%	None	0.00%	100%	0
DUT A2	0-5	07/17/2019	0.25%	Chrysotile	0.25 %	99.7%	0
DUT A2	5-10	07/17/2019	0.25%	None	0.00%	100%	0
DUT A2	10-15	07/17/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT A3	0-5	07/17/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT A3	5-10	07/17/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT A3	10-15	07/17/2019	0.25%	Chrysotile	0.25 %	99.7%	0
DUT A4	0-5	07/17/2019	0.25%	None	0.00%	100%	0
DUT A4	5-10	07/17/2019	0.25%	None	0.00%	100%	0
DUT A4	10-15	07/17/2019	0.25%	None	0.00%	100%	0
DUT B1	0-5	07/17/2019	0.25%	None	0.00%	100%	0
DUT B1	5-10	07/17/2019	0.25%	None	0.00%	100%	0
DUT B1	10-15	07/17/2019	0.25%	None	0.00%	100%	0
DUT B2	0-5	07/17/2019	0.25%	None	0.00%	100%	0
DUT B2	5-10	07/17/2019	0.25%	None	0.00%	100%	0
DUT B2	10-15	07/17/2019	0.25%	None	0.00%	100%	0
DUT B3	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT B3	5-10	07/18/2019	0.25%	None	0.00%	100%	0
DUT B3	10-15	07/18/2019	0.25%	None	0.00%	100%	0
DUT B4	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT B4	5-10	07/18/2019	0.25%	None	0.00%	100%	0
DUT B4	10-15	07/18/2019	0.25%	None	0.00%	100%	0
DUT B5	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT B5	5-10	07/18/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT B5	10-15	07/18/2019	0.25%	None	0.00%	100%	0
DUT C1	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT C1	5-10	07/18/2019	0.25%	None	0.00%	100%	0
DUT C1	10-15	07/18/2019	0.25%	None	0.00%	100%	0
DUT C2	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT C2	5-10	07/18/2019	0.25%	None	0.00%	100%	0
DUT C2	10-15	07/18/2019	0.25%	None	0.00%	100%	0
DUT C3	0-5	07/18/2019	0.25%	None	0.00%	100%	0
DUT C3	5-10	07/18/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT C3	10-15	07/18/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT C4	0-5	07/19/2019	0.25%	None	0.00%	100%	0
DUT C4	5-10	07/19/2019	0.25%	None	0.00%	100%	0
DUT C5	0-5	07/19/2019	0.25%	None	0.00%	100%	0
DUT C5	5-10	07/19/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT C5	10-15	07/19/2019	0.25%	None	0.00%	100%	0
DUT D1	0-5	07/20/2019	0.25%	None	0.00%	100%	0
DUT D1	5-10	07/20/2019	0.25%	None	0.00%	100%	0
DUT D1	10-15	07/20/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT D2	10-15	07/20/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT D2	0-5	07/20/2019	0.25%	None	0.00%	100%	0
DUT D2	5-10	07/20/2019	0.25%	None	0.00%	100%	0
DUT D3	0-5	07/20/2019	0.25%	None	0.00%	100%	0
DUT D3	5-10	07/20/2019	0.25%	None	0.00%	100%	0
DUT D3	10-15	07/20/2019	0.25%	None	0.00%	100%	0
DUT D4	0-5	07/22/2019	0.25%	None	0.00%	100%	0
DUT D4	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT D4	10-15	07/22/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT D5	0-5	07/22/2019	0.25%	None	0.00%	100%	0
DUT D5	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT D5	10-15	07/22/2019	0.25%	None	0.00%	100%	0
DUT E1	0-5	07/22/2019	0.25%	None	0.00%	100%	0
DUT E1	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT E1	10-15	07/22/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT E2	0-5	07/22/2019	0.25%	Chrysotile	0.5 %	99.5%	0

TABLE 9
DUTRA ASBESTOS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	CC	Asbestos Type	Amount of Asbestos	Non-Asbestos Nonfibrous Amount	Non-Asbestos Fibrous Amount
DUT E2	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT E2	10-15	07/22/2019	0.25%	None	0.00%	100%	0
DUT E3	0-5	07/22/2019	0.25%	None	0.00%	100%	0
DUT E3	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT E3	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT E4	0-5	07/22/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT E4	5-10	07/22/2019	0.25%	None	0.00%	100%	0
DUT E4	10-15	07/22/2019	0.25%	None	0.00%	100%	0
DUT E5	0-5	07/23/2019	0.25%	None	0.00%	100%	0
DUT E5	5-10	07/23/2019	0.25%	None	0.00%	100%	0
DUT E5	10-15	07/23/2019	0.25%	None	0.00%	100%	0
DUT F1	0-5	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F1	5-10	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F1	10-15	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F2	0-5	07/23/2019	0.25%	None	0.00%	100%	0
DUT F2	5-10	07/23/2019	0.25%	None	0.00%	100%	0
DUT F2	10-15	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F3	0-5	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F3	5-10	07/23/2019	0.25%	None	0.00%	100%	0
DUT F3	10-15	07/23/2019	0.25%	None	0.00%	100%	0
DUT F4	0-5	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F4	5-10	07/23/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT F4	10-15	07/23/2019	0.25%	None	0.00%	100%	0
DUT F5	0-5	07/23/2019	0.25%	None	0.00%	100%	0
DUT F5	5-10	07/23/2019	0.25%	None	0.00%	100%	0
DUT F5	10-15	07/23/2019	0.25%	None	0.00%	100%	0
DUT G1	0-5	07/23/2019	0.25%	None	0.00%	100%	0
DUT G1	5-10	07/23/2019	0.25%	None	0.00%	100%	0
DUT G1	10-15	07/23/2019	0.25%	None	0.00%	100%	0
DUT G2	0-5	07/24/2019	0.25%	None	0.00%	100%	0
DUT G2	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT G2	10-15	07/24/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT G3	0-5	07/24/2019	0.25%	None	0.00%	100%	0
DUT G3	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT G3	10-15	07/24/2019	0.25%	None	0.00%	100%	0
DUT G4	0-5	07/24/2019	0.25%	None	0.00%	100%	0
DUT G4	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT G4	10-15	07/24/2019	0.25%	None	0.00%	100%	0
DUT G5	0-5	07/24/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT G5	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT G5	10-15	07/24/2019	0.25%	None	0.00%	100%	0
DUT H1	0-5	07/24/2019	0.25%	None	0.00%	100%	0
DUT H1	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT H1	10-15	07/24/2019	0.25%	None	0.00%	100%	0
DUT H2	0-5	07/24/2019	0.25%	None	0.00%	100%	0
DUT H2	5-10	07/24/2019	0.25%	None	0.00%	100%	0
DUT H2	10-15	07/24/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT H3	0-5	07/25/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT H3	5-10	07/25/2019	0.25%	None	0.00%	100%	0
DUT H3	10-15	07/25/2019	0.25%	None	0.00%	100%	0
DUT H4	0-5	07/25/2019	0.25%	None	0.00%	100%	0
DUT H4	5-10	07/25/2019	0.25%	None	0.00%	100%	0
DUT H4	10-15	07/25/2019	0.25%	None	0.00%	100%	0
DUT H5	0-5	07/25/2019	0.25%	None	0.00%	100%	0
DUT H5	5-10	07/25/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT H5	10-15	07/25/2019	0.25%	None	0.00%	100%	0
DUT I1	0-5	07/25/2019	0.25%	None	0.00%	100%	0
DUT I1	5-10	07/25/2019	0.25%	None	0.00%	100%	0
DUT I1	10-15	07/25/2019	0.25%	None	0.00%	100%	0
DUT I2	0-5	07/25/2019	0.25%	None	0.00%	100%	0

TABLE 9
DUTRA ASBESTOS RESULTS
IMPORTED SOIL SAMPLE ASSESSMENT - DATA PACKAGE #2
PARCEL E2, PHASE 3 REMEDIAL ACTION
HUNTERS POINT NAVAL SHIPYARD (HPNS), SAN FRANCISCO, CA

Location ID	Depth (Feet)	Date	CC	Asbestos Type	Amount of Asbestos	Non-Asbestos Nonfibrous Amount	Non-Asbestos Fibrous Amount
DUT I2	5-10	07/25/2019	0.25%	None	0.00%	100%	0
DUT I2	10-15	07/25/2019	0.25%	None	0.00%	100%	0
DUT I3	0-5	07/25/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I3	5-10	07/25/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I3	10-15	07/25/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I4	0-5	07/26/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I4	5-10	07/26/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I4	10-15	07/26/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT I5	0-5	07/26/2019	0.25%	None	0.00%	100%	0
DUT I5	5-10	07/26/2019	0.25%	Chrysotile	0.75 %	99.2%	0
DUT I5	10-15	07/26/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT J1	0-5	07/26/2019	0.25%	None	0.00%	100%	0
DUT J1	5-10	07/26/2019	0.25%	None	0.00%	100%	0
DUT J1	10-15	07/26/2019	0.25%	None	0.00%	100%	0
DUT J2	0-5	07/26/2019	0.25%	None	0.00%	100%	0
DUT J2	5-10	07/26/2019	0.25%	None	0.00%	100%	0
DUT J2	10-15	07/26/2019	0.25%	Chrysotile	< 0.25%	100%	0
DUT J3	0-5	07/26/2019	0.25%	None	0.00%	100%	0
DUT J3	5-10	07/26/2019	0.25%	None	0.00%	100%	0
DUT J3	10-15	07/26/2019	0.25%	None	0.00%	100%	0
DUT J4	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT J4	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT J4	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT J5	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT J5	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT J5	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT K1	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT K1	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT K1	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT K2	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT K2	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT K2	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT K3	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT K3	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT K3	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT K4	0-5	07/29/2019	0.25%	None	0.00%	100%	0
DUT K4	5-10	07/29/2019	0.25%	None	0.00%	100%	0
DUT K4	10-15	07/29/2019	0.25%	None	0.00%	100%	0
DUT K5	0-5	07/30/2019	0.25%	None	0.00%	100%	0
DUT K5	5-10	07/30/2019	0.25%	None	0.00%	100%	0
DUT K5	10-15	07/30/2019	0.25%	None	0.00%	100%	0
DUT L1	0-5	07/30/2019	0.25%	None	0.00%	100%	0
DUT L1	5-10	07/30/2019	0.25%	None	0.00%	100%	0
DUT L1	10-15	07/30/2019	0.25%	None	0.00%	100%	0
DUT L2	0-5	07/30/2019	0.25%	None	0.00%	100%	0
DUT L2	5-10	07/30/2019	0.25%	None	0.00%	100%	0
DUT L2	10-15	07/30/2019	0.25%	None	0.00%	100%	0
DUT L3	0-5	07/30/2019	0.25%	None	0.00%	100%	0
DUT L3	5-10	07/30/2019	0.25%	None	0.00%	100%	0
DUT L3	10-15	07/30/2019	0.25%	None	0.00%	100%	0
DUT L4	0-5	07/30/2019	0.25%	None	0.00%	100%	0
DUT L4	5-10	07/30/2019	0.25%	None	0.00%	100%	0
DUT L4	10-15	07/30/2019	0.25%	None	0.00%	100%	0
DUT L5	0-5	07/31/2019	0.25%	None	0.00%	100%	0
DUT L5	5-10	07/31/2019	0.25%	None	0.00%	100%	0
DUT L5	10-15	07/31/2019	0.25%	None	0.00%	100%	0